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**Illinois State —
— Question Book**



**E. B. LEWIS, PUBLISHER.
LITCHFIELD, ILL.**



Class LB1763

Book I3I6

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The Illinois State Question Book

Questions for First, Second and Third Grade Elementary
Certificates.

This book contains the questions as given by the State Examining Board for Second and Third Grade Elementary Certificates and the questions in the common branches of study used in the examination for First Grade Elementary Certificates.

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Price, Cloth Bound, 75c.

E. B. LEWIS, Publisher, Litchfield, Ill.

**This Book Aims to Excel All Other Question Books in the
Following Points:**

- 1st. In the Number, Ability and Eminence of its Authors.
- 2nd. In the Model Forms of **Written Answers Included**. While some of the authors have abridged their answers more than they would be in an examination, many others have answered the topics just as they would if taking the examination **themselves. It therefore contains model forms**, which feature alone is of inestimable value to any young teacher.
- 3rd. It is the only question book containing the examinations given by the Illinois State Examining Board under the New Certifying Law.
- 4th. It gives a fair idea of the standard of work required for certificates in Illinois.
- 5th. **Whole topics** are given just as **they were in the examinations**, and answered.
- 6th. The old "Cramming," "Pouring In" Process of Former Question Books has been eliminated. No attempt has been made to see **how many questions** could be manufactured and advertised. Most any topic could be resolved into several single questions.

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Section One

When fourteen topics are given in any one subject the rule is that applicants writing for an elementary certificate shall answer questions as follows: (1) for a Third Grade, any eight of the questions from 1 to 10, inclusive; (2) For a Second Grade, any eight of the questions from 3 to 12, inclusive; (3) For a First Grade, any eight of the questions from 5 to 14, inclusive.

READING—Questions.

1. The slaves, who were in the hold of the vessel, had been captured in Africa. The slaves who were in the hold of the vessel, had been captured in Africa. Read the above sentence. Pause where the commas occur. What difference in meaning is there in the first and second?

2. So every bondman in his own hand bears the power to cancel his captivity? What would the meaning be if the first seven words are read in one group? By vertical lines mark off the correct grouping.

3. In what grade or grades would the following classics be appropriate? Would you reject any as unsuited for the grades? Arabian Nights, Miles Standish, Hamlet, The Legend of Sleepy Hollow, Reynard the Fox, Anderson's Fairy Tales, Idylls of the King, The Tale of Two Cities, The Man Without a Country, Robinson Crusoe, Story of Ulysses.

4. We have a secret, just we three,
The robin and I and the sweet cherry tree;
The bird told the tree and the tree told me,
And nobody knows it but just we three.
But of course the robin knows it best,
Because he built the—I shan't tell the rest;
And laid the four little—somethings—in it—
I am afraid I shall tell it every minute.
But if the tree and the robin don't peep,
I'll try my best the secret to keep;
Tho I know when the little birds fly about,
Then the whole secret will be out.—Anon.

In what grade would you introduce this poem? Make out a lesson plan showing how you would teach it.

5. What methods would you use in disposing of unfamiliar words which the pupil meets in the reading lesson?

6. Cassius—Do not presume too much upon my love; I may die that I shall be sorry for.

Brutus—You have done that you should be sorry for. Julius Caesar IV:3.

What is the meaning when emphasis is put (a) on you? (b) on have? (c) on should? (d) on sorry? (e) on done and should? Underline the words which should be emphasized.

7. Make out a lesson plan for teaching "The Little Red Hen" to a first grade class.

8. The splendor falls on castle walls
 And snowy summits, old in story;
 The long light shakes across the lakes,
 And the wild cataract leaps in glory.
 Blow, bugle, blow, set the wild echoes flying;
 Blow, bugle; answer, echoes, dying, dying, dying.
 O, hark! O, hear! how thin and clear,
 And thinner, clearer, farther going!
 O, sweet and far from cliff and scar,
 The horns of Elfland, faintly blowing!
 Blow, let us hear the purple glens replying;
 Blow, bugle; answer, echoes, dying, dying, dying.
 O, love, they die in yon rich sky;
 They faint on hill or field or river.
 Our echoes roll from soul to soul,
 And grow forever and forever.
 Blow, bugle, blow, set the wild echoes flying;
 And answer, echoes, answer, dying, dying, dying.

Why does the writer use "splendor" instead of "sun-set," and "summits" instead of "mountains?" What is meant by "old in story?"

9. What is the theme of the above poem? In order to make plain the theme what words in the third stanza must be emphasized?

10. Explain the meaning of the following: "wild echoes," "horns of Elfland," "rich sky," "purple glens," "leaps in glory."

11. What is the relation of phonics to reading? Speak of the relative place of, and the amount of time to be given to reading and literature thru the grades.

12. Build thee more stately mansions, O my soul,
 As the swift seasons roll;
 Leave thy low-vaulted past!
 Let each new temple, nobler than the last,
 Shut thee from heaven with a dome more vast,
 Till thou at length art free,
 Leaving thine outgrown shell by life's unresting sea!

—Holmes.

Explain the meaning of the following: "Low-vaulted past," "out-grown shell," "life's unresting sea." How does the soul build mansions? What is meant by the new temple?"

13. In "King Lear," the Fool says: "I fain would learn to lie." What does this sentence mean if emphasis is put (a) on I? (b) on fain? (c) on learn? (d) on lie?

14. Rip van Winkle; The Pied Piper of Hamelin. Select one of these classics. How would you plan to teach it in the seventh or eighth grades? In answering cover the following points:

- A. General purpose for teacher and for pupil.
- B. Mode of approach.
- C. Plan of procedure.
- D. Amount of time to be spent in oral and in silent reading.

ARITHMETIC.—Questions.

1. Give four examples in the subtraction of integers, arranged according to difficulty, to illustrate some difficulties arising in subtraction. Tell how each example differs from the preceding.

2. (a)

$1\frac{1}{9} + .025\frac{1}{2} + \frac{1}{11} =$ what? Give exact result.

(b) Simplify:

$$\frac{2\frac{2}{11}}{3\frac{3}{4}} \times \frac{2\frac{1}{2} - 1\frac{5}{6}}{4}$$

3. The circumference of a circle is 548.76 ft. Find the diameter correct to .01 ft. Use $\pi = 3.1416$. Find the area of the circle correct to .01 ft.

4. Develop the rule for "pointing off" in the multiplication of decimal fractions.

5. A cube whose edge is six inches is cut into two equal parts by a plane passing thru diagonally opposite edges. Find the volume and whole surface of one of the equal pieces.

6. Find the weight in kilograms of a piece of iron 3 meters long and one decimeter square at the end, assuming the specific gravity of iron to be 7.2.

7. If the area of a triangle whose base is 40 ft. is 600 sq. ft., what is the base of a similar triangle whose area is 1200 sq. ft.?

8. Find the proceeds on a note for \$800, dated Jan. 1, 1914, due in 90 days, not bearing interest, and discounted at the bank on January 27 at 7%.

9. After being allowed discounts of 10% and 10%, A paid \$82.60 for a bill of goods. What was the list price?

10. Give the answers to the following:

(a) 1% of 2.465 = what?

(b) $16.5 = 200\%$ of what number?

(c) $48.65 =$ what per cent of 12.36? Answer correct to .1%.

11. Give the form of solution that you would give to a seventh grade for each of the following problems:

- (a) 7 % of \$850 = what?
- (b) \$48 = 6 % of what?
- (c) $32 = 5\%$ of what number?

12. Tell which of the following statements are not true, and give reasons:

- (a) $\$24 + 50\% = \48 .
- (b) $28 \text{ cu. in.} \div 7 \text{ in.} = 4 \text{ sq. in.}$
- (c) $\sqrt{900 \text{ sq. ft.}} = 30 \text{ ft.}$
- (d) $\$2/3 \div \$3/5 = \$2/3 \times \$3/5 = \$10/9$.
- (e) $4 \text{ hr. } 3 \text{ min. } 2 \text{ sec.} \times 15 = 60 \text{ hr. } 45 \text{ min. } 30 \text{ sec.}$

13. Find the ratio of:

- (a) The altitude of an equilateral triangle to its side.
- (b) the diagonal of a cube to its edge.

14. Write a note for \$8,000, with interest at 5%, dated at Springfield, Illinois, Jan. 4, 1914, due in two years, and payable at the First National Bank of Springfield, Illinois. Make John Doe the maker, and William Roe the payee.

This note is first endorsed in full to John Jones, and then in blank by John Jones. Write both endorsements.

CIVICS—Questions.

1. What is the purpose of government? Where is the source of government in the United States?

2. What distinction is there between a town and township? What offices does a town have? Township? Indicate the time of election of each.

3. How long is the term of a representative in Congress? Of a senator? Of the President? Of a judge of the U. S. Supreme Court?

4. What is meant by civil service? By diplomatic service? By consular service?

5. Explain writ of habeas corpus, bill of attainder, appellate jurisdiction, ex post facto law, indictment.

6. Explain the "town system" and the "county system" of county government in Illinois.

7. Explain how the minority party in any senatorial district may send a representative to the general assembly.

8. Who may be excused from jury service in Illinois? Why this provision in law?

9. What arguments for and against an electoral system of electing the president?

10. State fully and clearly how to find the number of representatives for each state in congress following the taking of the census.

11. What is the most important committee in the house of representatives, and what is its chief duty?

12. Describe the ordinary proceedings in the passage of a law in Illinois.

13. How may fugitives from justice be returned to the state in which the crime was committed?

14. What is meant by implied powers in the Federal constitution? Point out a practical application of this power in our history.

STATE COURSE OF STUDY—Questions.

For Third Grade Certificate answer any eight of the first ten questions; for Second Grade Certificate, any eight of 3 to 12, inclusive.

1. What subjects should be taught in the first two grades?

2. Discuss the value of a school library. What kinds of books should it contain?

3. What are the four aims of the State Course of Study?

4. Discuss the value of the State Course to the rural schools.

5. Explain the plan of alternation of studies and classes.

6. Make out a suggestive program for the forenoon, of a one-room school, or of a grade consisting of two divisions.

7. Make out a suggestive program for the afternoon, of a one-room school, or of a grade consisting of two divisions.

8. Name and discuss briefly from three to five purposes served by an examination system.

How may the disadvantages of an examination system be counteracted in part? What is meant by Patron's Day? What may be accomplished by its observance?

9. What are some of the sources of material for reading lessons in the lower grades?

10. Give five general suggestions on teaching spelling.

11. What arithmetic work should be taught in the fifth and sixth grades?

12. Make a list of five stories suitable for second grade language work and outline a plan for teaching one of them.

What aims should be kept in mind in teaching phonics? Give a plan for teaching the same.

ORTHOGRAPHY—Questions.

1. Syllabicate and mark the accent: ally, cerebrum, discourse, idea, industry, inquiry, gondola, horizon, recess, formidable.

2. In each of the following words mark diacritically the first vowel to indicate its correct pronunciation in the word: gratis, deaf, arid, piano, water, chasten, produce (noun), forehead, boquet.

3. Indicate by diacritical markings the sound of **e** in whey, meat, fern, debt, heir; and of **u** in church, human, rule, pull, cup.

4. Give the meaning of the prefix in each of the following words:

- | | |
|----------------|----------------|
| (1) antecedent | (6) benevolent |
| (2) antonym | (7) emigrate |
| (3) ancestor | (8) offend |
| (4) preclude | (9) impose |
| (5) seduce | (10) immortal |

(Rewrite the prefixes but not the words; number the prefixes and their meanings to correspond with the numbers of the words.)

5. (a) Add one of these suffixes: **ed**, **ing**, **ence** or **ance** to each of the following words:

- | | |
|--------|---------|
| begin | benefit |
| abhor | merit |
| stir | acquit |
| confer | gallop |
| heap | occur |

(b) Give a rule of spelling for doubling the final consonant when a suffix is added.

6. Give the meaning of the root in each of the following words:

- | | |
|----------------|----------------|
| (1) intervene | (6) normal |
| (2) nonplus | (7) recognize |
| (3) persecute | (8) transgress |
| (4) incredible | (9) deciduous |
| (5) antidote | (10) fortitude |

(Do not rewrite the words; number the meaning to correspond with the number of the words.)

7. Give as complete and scholarly definitions as you can, not merely synonyms, for any five of the following words:

- | | |
|-----------|-------------|
| intercede | expire |
| dissect | admonish |
| bisect | contaminate |
| persecute | circumvent |

List of words to be spelled for First, Second and Third Grade certificates:

- | | |
|----------------|----------------|
| 1 changeable | 14 committee |
| 2 conscience | 15 legitimate |
| 3 develop | 16 vegetation |
| 4 disappoint | 17 cartilage |
| 5 forcible | 18 injurious |
| 6 lullaby | 19 geranium |
| 7 mortgage | 20 bulletin |
| 8 perseverance | 21 bouquet |
| 9 privilege | 22 inaugurate |
| 10 ridiculous | 23 mischievous |
| 11 serviceable | 24 tyranny |
| 12 similar | 25 recommend |
| 13 predicament | |

PEDAGOGY—Questions.

1. Discuss the importance of the first day at school.
 2. Discuss the importance of assignments of lessons. What should a good assignment include?
 3. What may a teacher properly do to secure regularity of attendance?
 4. What difference does it make how children sit, or stand, or walk? State how you undertake to help them in these respects.
 5. How should a teacher go to work to help children break up bad habits?
 6. How may you teach children to memorize so as to save time and undue effort?
 7. What ideas have you to guide you in making a program?
 8. Why is attention so important? Under what conditions can a child give good attention?
 9. What is the purpose of drills? Describe a good drill in arithmetic.
 10. Give the advantages and disadvantages of departmental teaching in the grades immediately below the high school.
 11. Name three difficult problems of high school management and give your solution for them.
 12. Discuss discipline in the upper grades compared to that in the high school.
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ELEMENTARY SCIENCE.—Questions.

For Second Grade Certificate Only. Answer any eight questions.

1. Mention three different methods by which the seeds or fruits of plants become scattered, and give illustrations of each method.
2. Name five common weeds that grow in cultivated fields. Mention some qualities that fit plants to live in cultivated fields.
3. Name five serious insect pests and tell what measures may be taken to combat each of them.
4. Into what classes may our common birds be divided with reference to the time of year that they spend in a given locality?
5. Name three different varieties of corn commonly grown in Illinois. Discuss briefly the selection and care of seed corn.
6. Explain why the air rises up the chimney from the stove or

furnace. Why does the closing of the dampers of a stove check the burning of the fire?

7. Mention two different methods by which certain plants are able to climb. Point out both the advantages and the disadvantages of the climbing habit.

8. What is a biennial plant? Name three biennial plants that are commonly raised in gardens.

9. What facts would you have a seventh grade class note and record in making a weather record?

10. Explain how you would make cuttings of such plants as the geranium, or begonia. How are sweet potato plants propagated?

PHYSIOLOGY.—Questions.

1. What are the four main classes of foods? Which of these is indispensable in our diet?

2. What changes does most of our food have to undergo before it can enter the blood? How is this change brought about? What do we call the process?

3. What different things are accomplished by the circulation of the blood thru the body?

4. How does air that is exhaled from the lungs differ in content from air freshly taken into the lungs? How does blood that leaves the lungs differ in content from blood that is just entering the lungs?

5. Point out the dangers of drinking water from shallow wells, also those arising from the use of a common drinking cup.

6. State definitely what conditions should prevail in a well heated and ventilated room.

7. Discuss the importance of having seats and desks properly adjusted as to height for school children.

8. Discuss the value of regular and well chosen exercise in helping to keep the body in a healthy state.

9. Distinguish between secretion and excretion. Name the excretory organs of the body.

10. Name some of the conditions that are favorable for the contraction of colds.

11. Name five common bacterial diseases and tell how each is most commonly contracted.

12. Describe briefly the nervous mechanism of reflex action.

13. Discuss the lighting of a school room.

14. What should be done with the patient in a case of fainting? what is the direct cause of this trouble?

PENMANSHIP—Questions.

For Third Grade Certificate answer any four of questions 1 to 5, inclusive; for Second Grade, any four of questions 2 to 6; for First Grade, any four of questions 3 to 7.

Penmanship of applicant on this paper will count fifty per cent.

1. What in general should be the position of body, feet, arms, and paper of a pupil ready to begin to write?

Give directions for holding the pen.

2. In making out the program for a rural school of twenty pupils, how much time daily would you assign for writing in the (a) primary, (b) intermediate, (c) grammar grades?

3. Why are young children usually asked to write with pencils or crayon exercises and letters much larger than ordinary script? Should copy books be used? Give reasons for your answer.

4. Write a letter of application for the position you expect or desire to fill during the coming year.

5. To show your conception of how they should be formed carefully write:

- (a) the nine digits,
- (b) the small or lower case letters,
- (c) the capital letters.

6. The principal movements used in writing are the finger, forearm, and combined. Describe each.

Which movement do you use in your own writing? Which would you teach (a) to primary pupils, (b) to intermediate pupils, (c) to grammar grade pupils?

7. By way of illustration, give specific directions concerning form and movement for the practice of one of the above movements.

GRAMMAR—Questions.

1. Discuss the most important differences between these two groups of words: (a) "A little old man with a long beard hobbling to meet them." (b) "A little old man with long beard hobbled to meet them."

2. Point out the complete subject and the complete predicate of each sentence:

- (a) Who are you?
- (b) If there be any virtue, if there be any praise, think on these things.
- (c) All legislative powers herein granted shall be vested in a Congress of the United States, which shall consist of a Senate and a House of Representatives.

3. a. Give the rules governing the formation of the following plurals and possessives: Cities', knives, feet, writing-desks, men-servants, mouthfuls, gentlemen's, brother-in-law's.

b. Write the plural possessive of: lady, house, alumnus, Miss Jones, state.

4. Classify the following sentences as simple, complex, compound or compound-complex, showing why, in each case:

- a. Truly there is a tide in the affairs of men, but there is no Gulf Stream setting forever in one direction.
- b. Hearing his imperial name,
Coupled with those words of malice,
Half in anger, half in shame,
Forth the great campaigner came
Slowly from his canvas palace.
- c. Not a drum was heard, not a funeral note,
As his corpse to the ramparts we hurried;
Not a soldier discharged his farewell shot
O'er the grave where our hero lies buried.

5. Explain what is meant by **grammatical person**, and by a **personal pronoun**; and give the declension of the personal pronoun of the third person.

6. Name and illustrate four uses of noun clauses.

7. Give the principal parts of the verbs **lie** and **lay**, and a synopsis in the indicative mode of

- (a) the verb **lie** in the third person, singular.
- (b) the verb **lay** in the first person, plural.

8. Discuss one of the following topics:

- (a) What are the specific applications of grammar to composition work in matters of punctuation?
- (b) Analysis versus parsing.

9. Name the most important uses of the objective case; and choose the right form to fill these blanks, explaining your choice:

- a. Who made the noise? Only (I, me).
- b. This is the student all are praising. (Who, whom.)
- c. is that for? (Who, whom.)
- d. We thought it was..... (He, him.)
- e. boys are going to the ball game. (We, us.)

10. Classify the following verbs or verb phrases and tell whether each verb or verbal belongs to the old or new conjugation (weak or strong):

- a. We have heard the news.
- b. The days are growing colder.

- c. We should observe keenly.
 - d. There lay the lost pocket-book.
 - e. Set the table quickly.
11. Parse the words in black face:
One **morning**, very early, **before** the sun **was** up, I **rose** and found the shining dew on every buttercup.
12. Plan one of the following lessons:
- a. The first lesson on transitive verbs.
 - b. A review and drill lesson on the three kinds of clauses.
 - c. The classification of nouns as common and proper.
13. Discuss **voice** in English, under these heads:
- a. What kinds of verbs have a passive voice?
 - b. How are passive verb phrases formed?
 - c. What other shifts in construction does a change of voice necessitate?
 - d. What are the proper uses and what some abuses of the passive?
14. Tell under what circumstances the following clause would be limiting, and under what circumstances it would be purely descriptive; and punctuate the sentence to make the clause purely descriptive.
- He has gone to the city where he always liked to visit.

GEOGRAPHY—Questions.

1. Name three elements of climate. Compare the climate of the State of Washington with that of Maine, giving reasons for the difference.
2. What geographic conditions make England a great commercial nation? Why does England need colonies? Why is England a strong naval power?
3. Name at least five geographic conditions that determine the location of cities. Give an example of each.
4. Explain fully two reasons why it is warmer in summer than in winter. Explain the change of seasons.
5. Compare the industries of Plains, Plateaus, Mountains. Show how the industries of each are determined by geographic conditions.
6. What is the "Cotton Belt?" The "Corn Belt?" What geographic conditions determine the position of each?
7. China: Position, size, population, surface, mineral resources, products, form of government, recent changes.
8. Name three ways in which water that has fallen as rain may disappear. Give conditions which determine which of three things shall happen. Which is of greatest advantage to agriculture?

9. What countries lead in the production of the following: (1) Coffee, (2) Corn, (3) Wool, (4) Diamonds, (5) Cotton? What states lead in the production of: (1) Hogs, (2) Wheat, (3) Rice, (4) Oranges, (5) Cane Sugar?

10. A ship sails from New York to San Francisco via Cape Horn. Name, in order, the wind belts crossed, giving the latitude of each. In which wind belts might rainfall be expected? Why? In which dry weather? Why?

11. Describe the topography of Northern and Southern Germany. Show the influence of the topography on industries of these regions.

12. What is the atmosphere? Name its constituents and give uses of each. How is the atmosphere related to rainfall?

13. Name six life zones of the earth, including two kinds of forests, two kinds of grasslands, and two kinds of deserts. Discuss the geographic conditions that produce each kind.

14. What is meant by "conservation of natural resources?" Name the natural resources that should be conserved. Select one of our natural resources and discuss fully ways in which it may be conserved.

UNITED STATES HISTORY.—Questions.

1. Contrast the Virginia colony with the Massachusetts Bay Colony with regard to political and industrial conditions.

2. What conditions favored the permanency of French colonial dominion in North America? Why did such dominion prove to be only temporary?

3. Tell briefly but comprehensively of the resistance of the English colonies to the mother country from the Stamp Act to the battles of Lexington and Concord.

4. Describe briefly but comprehensively the western movement, and the problems involved in it, in the twenty-five or thirty years following the second war with England.

5. Give briefly but completely an account of the Missouri Compromise.

6. Enumerate five of the most important weaknesses of the Articles of Confederation. In what way did the Constitution remedy these weaknesses?

7. In the quarter century following the establishment of the nation under the Constitution, what were the most important events tending to give the United States standing among the nations of the earth?

8. Give briefly the story of the annexation of Texas. In what way did that connect itself with the Mexican war?

9. What were the provisions of the Kansas-Nebraska Compromise? Why did it give new vigor to the slavery controversy?

10. What was the fundamental cause of the Civil War? What was the more immediate occasion for the war?

11. Assuming the Emancipation Proclamation to have been within the President's constitutional authority, why was amendment still necessary? Give two reasons.

12. Enumerate five of the most salutary accomplishments of the Roosevelt administration.

13. State the circumstances leading up to the Spanish-American war.

14. Enumerate the thirteen English colonies in the approximate order of their settlement. Which was the first settlement, and when established? Which was the best and when established?

ILLINOIS HISTORY—Questions.

1. Name five Illinois men who won distinction in the Civil war.

2. State the advantages of Illinois resulting from its natural resources and its geographical situation.

3. Give a brief account of the steps taken in the admission of Illinois into the Union.

4. Give a brief sketch of the "Black Hawk" war.

5. Describe fully two customs of the early settlers which have disappeared from the life of the people.

6. What was the "Black Code?" Give some of its provisions.

7. Give a short account of the effort to make Illinois a slave state.

8. What part did Illinois take in the "Mexican War?"

9. Discuss the Lincoln-Douglas debate.

10. Who was the "War Governor" of Illinois? Why so called?

11. How many constitutions has Illinois had? Give dates of their adoption. Give one leading feature of each.

12. What Illinois history can you connect with these places: Starved Rock, Galena, Old Salem (on the Sangamon), Nauvoo, Shawneetown, Vandalia, Alton, Freeport.

13. Name five governors of Illinois and name some important event in the administration of each.

14. Give the history of the Illinois Central Railroad.

Answers To Section One

READING.—Answers.

By Miss Helen Bryden, Assistant in English, Southern Illinois State Normal University.

1. (a) The slaves, who were in the hold of the vessel, had been captured in Africa.

"Who were in the hold of the vessel" is in apposition, therefore all the slaves spoken of were captured in Africa.

(b) The slaves who were in the hold of the vessel, had been captured in Africa. This indicates a limited number. Only those who were in the hold of the vessel, had been captured.

2. (a) So every bondman in his own hand, bears the power to cancel his captivity.

Not correct—a man cannot be in his own hand.

(b) So every bondman, in his own hand bears the power to cancel his captivity.

The bondman has the power within himself to become free, or it may be literally considered that he carries a paper (?) with him that gives him freedom.

3. Arabian Nights. Fifth and Sixth Grades. (Simplified Third Grade)

Miles Standish. Sixth and Seventh Grades.

Hamlet, High School.

Legend of Sleepy Hollow. Seventh Grade.

Reynard the Fox. Second Grade.

Andersen's Fairy Tales. First and Second Grades.

Idylls of the King. Eighth Grade.

The Tale of Two Cities. High School.

The Man Without a Country. Seventh and Eighth Grades.

Reproduction—Fifth and Sixth Grades. (Simplified.)

Robinson Crusoe. Third and Fourth Grades.

Story of Ulysses. Sixth Grade. It can be taught easily in the Third and Fourth Grades.

4. Second half of First Grade.

Language lesson—oral—on "Secrets". Who have them. Christmas Secrets. Birthday Secrets. Etc.

Language lesson—oral—on the Robin. Its breast in spring—in fall. Stories of the Robin. Its food. Nest. Eggs.

Learn to recognize these words or other unknown words.

Children "draw" trees, nests, bird in tree.

Read the story. Draw attention to myphens.

Tell the story.

Learn.

At story hour try to dramatize.

Suggestive outline. Aims—Love of Nature—Protection of birds—be worthy of trust.

5. If a child meets an unfamiliar word in the reading lesson have him try to get it phonetically, if he can not, let him listen to one of the children give it. If there is a word that can not be gotten phonetically, pronounce it for the child.

6. (a) "You have done that you should be sorry for".

When emphasis is placed on **you**, it gives the impression that Cassius believes some one else is guilty, and Brutus is emphatic in saying, "You have done that you should be sorry for."

(b) "You have done that you should be sorry for".

It is not a question of the future but you **have**, already, done wrong.

(c) "You have done that you should be sorry for".

Cassius is not sorry, but he ought to be.

(d) "You have done that you should be sorry for".

Brutus appeals kindly, sorrowfully, to Cassius' conscience for repentance.

(e) "You have done that you should be sorry for".

Again Brutus tells Cassius the deed has been performed, that he should feel repentant for it.

(f) You **have** done that you should be sorry for.

7. The Little Red Hen.

1. Draw a little hen on the board or put up the picture of one.

2. Talk to the children about this little hen.

3. Print the word "hen" on the board, also write it.

Have little devices in which this word can be found.

4. Let the children pick out anything in the room that is red, such as a red ribbon, apple, crayon, etc.

5. Write the word.

6. The word seed is brought out by the object.

7. The teacher points to the different words and the children touch the object.

8. Teacher spells the words phonetically and the children pick out the object.

This method is carried thru the story. (Repetition is valuable in this story).

Let the children tell the story in their own way.

They have learned the process of the little seed to the loaf of bread.

8. (a) "Splendor"—the liquid sound is stronger and the word connotes a richness and brightness, combined with colors, that the word sunset fails to do. Splendor is less definite and more suited to the style of this poem.

- (b) "Summits". The thought of height is attractive. The snow is not on all the mountain, it is on the top, the "summit".
- (c) "Old in story". A great many authors have written about the "snow-capped mountains", therefore the thought is old.
9. (a) The theme of the Bugle song is, our influence never dies.
 (b) In the third stanza, the third and fourth lines, emphasis should be placed on "Our", "roll", "soul", "soul", "grow", "forever".
 "Our echoes roll from soul to soul,
 And grow forever and forever".
10. (a) "Wild echoes". The echoes are wild because they fly from one point to another and are not still a moment, until they go away.
 (b) "horns of Elfland". Elfland is the land where the elf and the fairy live. The echoes grow so faint and far away that it sounds as if the elves were blowing their tiny horns.
 (c) "rich sky". Rich in colorings of the sunset, red, golden and violet.
 (d) "purple glens". The sun rays are above the glen and the twilight in the glen has a purple tinge.
 (e) "leaps in glory". The water comes down the mountain with such rapidity that it does not simply fall, it springs and leaps over the rocks and the rays of the sunlight make it golden and sparkling—"glory".
11. (a) Phonics is the "key note" to reading.
 (b) "The differences between reading and literature are largely due to content and aim". Southern Illinois State Normal Training School Manual.

Reading may be of a literary or didactic type. "The great mass of reading done in school is didactic. History, Geography, etc., are didactic". Thus reading of this style takes by far the greater amount of time.

"Reading, as literature, stands alone in the school curriculum. No other subject can give skill in the interpretation of discourses of this kind. Hence the bulk of reading placed on the program should be of the literary form and content". Manual of Course of Study, Training Department of Southern Illinois State Normal.

The reading class must be for preparation for reading and for the reading. If dramatization is to be given (by children) do not use the reading period for it. It is very important as all work depends upon the power to interpret the reading. "Oral reading is mental process".

In the first two grades the children usually read two or three times a day but from the third grade to the High School, once a day.

12. (a) "Low-vaulted past". The pearly nautilus first lives in a low, slightly dome like one "roomed" shell, as it grows it builds an addition to this; larger, higher and

shuts off the old home by a closed door. Then growth continues until the nautilus is full grown.

Soul life. Each event in our life should make us grow away from anything that is low or has low ideals. Leave the past and have higher ideals.

- (b) "Outgrown shell." As we grow intellectually and spiritually, our former thoughts and life are "outgrown".
 - (c) "Life's unresting sea". The nautilus dies and leaves its shell upon the seashore and is tossed about by the restless waves, so we leave our bodies on the "earth-sea", where so much unrest is felt by the living.
 - (d) The soul builds mansions by having purer, stronger thoughts, feelings and acts.
 - (e) "New temple." Each victory that we win over ourselves, is a growth. Every advance we make, adds to this growth and the whole makes a more beautiful life and the spirit is in a newer, clearer atmosphere.
13. (a). "I ~~ain~~ would learn to lie."
If "I" is emphasized, it infers that another person does he and the fool is ready accusing the person.
- (b). "I ~~ain~~ would learn to lie." This indicates a desire to learn the power or art of telling lies.
- (c). "I ~~ain~~ would learn to lie." I do not know how to lie but I should like to learn to do so.
- (d). "i ~~ain~~ would learn to lie." There is sarcasm, a reproach, a challenge that some one (King Lear) has lied and King Lear is angry. The thought is implied that he can do other things but has not reached the point of being able to lie.
14. Rip Van Kinkle.
- A. The teacher's object is to awaken a love for pure, simple story reading.
The pupil's purpose is to gain a love of knowledge and note changes in a short time in America. Patriotism.
 - B. Approach—Irving's Biography, History of England as connected with American History during the reign of George II and George III, Geography of the Catskill Mountains and Knickerbocker History.
 - C. Plan of Procedure.
Basis of the story.
Note book for new words and new meanings.
Four views. 1. Rip as a boy. 2. As a young man.
3. His mountain trip and his sleep. Tell of the superstition concerning the mountains. 4. His return.
Purpose of the descriptive introduction? How does it affect the story? How does the author handle the supernatural?
 - In reading, note 1. Forecasts. 2 Points of suspense. 3. The Principal and also the subordinate characters.
Why are the subordinate characters so classed?
 - Climax.
 - Purpose of the author?

Note bits of humor, pathos, dialogue, beauty.

Most dramatic situation.

Authors aim in having Rip return just at the time of the election?

Write paragraphs on: 1. Characters. 2. Personal appearance of Rip. 3. Nine-plus. 4. Early New York. Sometimes a class enjoys the writing of a dramatic scene, by using the dialog for the scene, without the descriptions or explanations.

The reading class is for the reading aloud of the assigned work.

Silent reading reported by "Book Reviews" should be assigned on an average of once every six weeks.

The Pied Piper of Hamelin.

A. The teacher's purpose is to arouse a love for classic poetry. The pupil's purpose is to gain a knowledge of rhyme and rhythm and the art of narrative in poetry.

B. Approach. Biography of Browning.

Situation. Geography. Customs. Origin of the idea of the story.

Keep a note book with a list of unknown words. Pupil's look them up and write the meaning that suits the context.

1. Find the keynote. 2. Forecast. 3. Suspenses. 4. Learn the meaning of the plot. 5. What characters are important in helping in the development of the plot? 6. Is the climax suitable? 7. purpose of the author. Discussions on the following subjects: Did the people deserve the punishment? Who were responsible? Who were punished? A town without children. 8. Bits of good description and a touch of pathos. 8. Secret of rhythm. Mark end words to show difference in rhyme as follows: Stanza 1. a, b, c, c, c, b, d, d, b. Stanzas 2. a, a, b, a, b, a, a, a, c, c, c.

Time of preparation in seventh and eighth grades in English work should be one and one-half or two times the length of the recitation.

ARITHMETIC.—Answers.

By David Felmley, President Illinois State Normal University

a	b	c	d
365	360	365	303
123	248	198	177

In a, each term of the subtrahend is smaller than the corresponding term of the minuend and may be subtracted directly.

In b, 1 ten in the minuend must be changed to 10 ones from which 8 ones may then be subtracted.

In **c**, one ten in the minuend must be changed to 10 ones and added to the 5 ones; from the sum 15 ones the 8 ones may be taken.

In **d**, there are no tens in the minuend, hence we must change 1 hundred to tens, and then 1 of the tens to ones. We then subtract 7 ones from 13 ones, 7 tens from the 9 tens remaining, and 1 hundred from the two hundreds remaining.

2. We first change the numbers to the same, **decimal** denomination, then the fractions to equivalents having the same fractional unit, then add.

Add.

$$\begin{array}{r}
 1.1\ 1/9 = 1.111\ 1/9 = 1.111\ 22 \\
 .025\ 1/2 = .025\ 1/2 = .025\ 10 \\
 1/11 = .090\ 10/11 = .090\ 180 \\
 \hline
 1.227\ 103/198
 \end{array}$$

(b)

1. Reducing mixed numbers to improper fractions:

$$\begin{array}{r}
 24 \quad 5 \quad 11 \\
 \hline
 11 \quad 2 \quad 6 \\
 \hline
 \times \\
 \hline
 15 \quad 4 \\
 \hline
 4
 \end{array}$$

2. Performing subtraction in second factor:

$$\begin{array}{r}
 24 \quad 4 \\
 \hline
 11 \quad 6 \\
 \hline
 \times \\
 \hline
 15 \quad 4 \\
 \hline
 4
 \end{array}$$

3. Multiplying both terms of first factor by 44, of second fraction by 6:

$$\begin{array}{r}
 96 \quad 1 \quad 16 \\
 \hline
 165 \quad 6 \quad 165
 \end{array}$$

3.

$$c = 3.1416 \times d. \quad \text{Hence, } d = \frac{c}{3.1416}$$

$$548.76 \text{ ft.} \div 3.1416 = 174.6753 \text{ or } 174.68 \text{ ft.}$$

$$\text{Area} = \pi r^2 = \frac{\pi d^2}{4} = \frac{\pi c^2}{4\pi^2} = \frac{c^2}{4\pi}$$

I may use either of the following formulae:

$$A = \pi r^2 \quad \text{or} \quad A = \frac{c^2}{4\pi}$$

I know the true value of c , but only an approximate value of d or r . Hence the second formula only will give a correct result, true to .01 sq. ft.

$$d = 174.68 \text{ —ft.}$$

$$r = 87.34 \text{ —ft.}$$

$$r^2 = 7628.27 \text{ —sq. ft.}$$

$$\pi r^2 = 23964.99 \text{ —sq. ft.}$$

This result is too large because we have squared a value of r that is too large.

$$c = 548.76 \text{ ft.}$$

$$c^2 = 301137.5376 \text{ sq. ft}$$

$$\frac{c^2}{4\pi} = 75284.3844 \text{ sq. ft.}$$

$$\frac{c^2}{4\pi} = 23963.71 \text{ —sq. ft.}$$

This result is true to .01 sq. ft.

$$\text{Wanted —.032} \times 1728.4$$

$$\text{This means —} \frac{32}{1000} \text{ of } 1728.4$$

$$\frac{1}{1000} \text{ of } 1728.4 = 1.7284$$

$$\frac{32}{1000} \text{ of } 1728.4 = 32 \times 1.7284 = 55.3088$$

To multiply by a fraction involves two processes.

1. To take the fractional part of the multiplicand that is indicated by the denominator of the fraction.

2. To multiply this result by the numerator.

If the multiplier is a decimal fraction we perform the first operation by moving the decimal point in the dividend to the left — one place if the denominator is 10, two places if it is 100 (that is $(10)^2$) three places if it is 1000, $(10)^3$ etc. Hence we may perform the work in this fashion:

$$\begin{array}{r} 1728.4 \\ .032 \\ \hline \end{array} \qquad \begin{array}{r} 1.7284 \\ 32 \\ \hline \end{array}$$

$$55.3088$$

It is evident that in the new multiplicand, and in the product we have as many decimal places as in both multiplicand and multiplier.

The volume of a cube 6" on each edge is 216 cu. in. Hence the volume of the half-cube is 108 cu. in. The two triangular bases of the half-cube put together form a 6"x6" square. Hence their area equals 36 square inches. (See Fig. 1.)

The two faces of the original cube that serve as faces of the half-cube are two 6"x6" squares. Their total area=72 sq. in. The face formed by the cutting plane is a rectangle, whose base is the diagonal of a 6"x6" square.

The diagonal of any square equals its side multiplied by $\sqrt{2}$
 $6" \times \sqrt{2} = 6" \times 1.4142 = 8.4852$ inches.

The area of the rectangle 6×8.4852 is 50.9112 sq. in.

Whole surface=36 sq. in. + 72 sq. in. + 50.9112 sq. in. = 158.9112 sq. in.

6.

3 meters=30 decimeters.

A prism 1 decimeter square and 30 decimeters long contains 30 cu. dm.

One cubic decimeter of water weighs one kilogram.

One cu. dm. of iron weighs 7.2 kg.

30 cu. dm. of iron weighs 30×7.2 kg., or 216 kg.

7.

In similar plane figures the *area-ratio* is the square of the *line-ratio*.

The *area-ratio* of the second triangle to the first triangle is 2.

Hence the *line-ratio* is $\sqrt{2}$ or 1.4142.

The base of the second triangle is 1.4142×40 ft. or 56.568 feet.

8.

Days of grace have been abolished in Illinois, hence no allowance for them should be made in this problem.

Since this 90-day note was discounted on January 27, 26 days after the note was made, the period of discount was 90—26, or 64 days.

The discount for 64 days at 7% was

$$\frac{64}{360} \text{ of } \frac{7}{100} \text{ of } \$800 \text{ or } \$9.96$$

Net proceeds=\$800—\$9.96=\$790.04

9.

10% of the list price=1/10 of the list price.

The net price after 1st discount=9/10 of the list price.

Net price after 2d discount=9/10 of 9/10 of list price.

=81/100 of list price.

Since \$82.60=81% of list price.

\$1.0198=1% of list price.

\$101.98=(100% of) list price.

10.

(a) 1% of 2.465 = .02465.

(b) 16.5 = 200% of 8.25.

(c) 48.65 = as many per cent of 12.36.

as it is times one per cent of 12.36.

1 per cent of 12.36 is .1236.

48.65 is 393.6 times .1236.

Hence 48.65 is 393.6% of 12.36.

11.

(a)

\$8.50

7

\$59.50

Language—

1 per cent of \$850 is \$8.50.

7 per cent of \$850 is 7 times \$8.50, which is \$59.50.

(b)

6 | \$48

\$8

100

\$800

Since \$48 equal 6 per cent of the required sum, one per cent of the required sum equals $\frac{1}{6}$ of \$48, which is \$8. 100 per cent of the required sum (or the required sum) equals 100 times \$8 or \$800

$$5\% \text{ of req. no.} = \frac{1}{20} \text{ of req. no.}$$

$$\frac{1}{20} \text{ of req. no.} = 32$$

$$\frac{20}{20} \text{ of req no.} = 640$$

Since 5% of any number is $\frac{1}{20}$ of that number, and since $\frac{1}{20}$ of the required number is 32, $\frac{20}{20}$ of the required number is 20 times 32, or 640.

12. All of the five given statements are not true.

(a)

We cannot add unlike numbers. 24 dollars and 50 per cent are unlike.

If the expression meant \$24 + 50% of \$24, it still would not be true for \$24 + 50% of \$24 = \$36.

(b)

We cannot divide a number of cubic inches by a number of inches. There are only two kinds of division.

In measurement the dividend and divisor are of the same

denomination and the quotient is abstract; as,
 $28 \text{ cu. in.} \div 7 \text{ cu. in.} = 4.$

In **partition** the divisor is abstract and the quotient is of the same denomination as the dividend.

$28 \text{ cu. in.} \div 7 = 1/7 \text{ of } 28 \text{ cu. in. or } 4 \text{ cu. in.}$

(c)

Only **numbers** have square roots; **quantities, surfaces, or areas** have no square roots. The given expression may be interpreted to mean "The side of a square containing 900 sq. ft. is 30 ft.

(d)

This expression is badly printed but is nonsensical if the error in the fourth fraction be corrected.

The expression $\$2/3 \div \$3/5$ means

what is the ratio of $\$2/3$ to $\$3/5$

or, two thirds of a dollar is what part of three-fifths of a dollar.

The analysis may run this way:

One dollar is $5/3$ of ($3/5$ of a dollar)

$2/3$ of one dollar is $2/3$ of $5/3$ of ($3/5$ of a dollar)

or it is $10/9$ of ($3/5$ of a dollar)

The analysis may run this way:

$$\$2/3 = \$10/15$$

$$\$3/5 = \$9/15.$$

The question now reads—

$10/15$ of a dollar is **what part** of $9/15$ of a dollar.

Now $1/15$ of a dollar is $1/9$ of $9/15$ of a dollar,

Hence $10/15$ of a dollar is $10/9$ of $9/15$ of a dollar.

The **division** is **measurement** and the quotient is abstract.

(e)

If a compound number is of hr., min., sec., the product formed by adding 15 such numbers will be composed of hrs., minutes and seconds.

It is right to say that the difference in longitude between two places is fifteen times as many degrees, minutes and seconds, as there are hours, minutes, and seconds respectively in the difference in time.

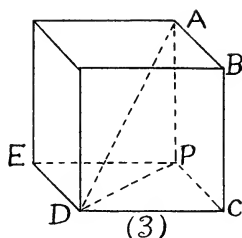
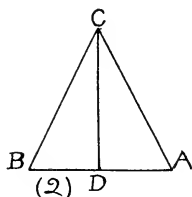
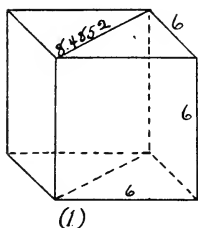
13 The altitude of the equilateral triangle is also the altitude of the right triangle CDA, whose **hypotenuse** is 1 and whose base is $1/2$, using the side CA as the unit. Hence the square of the altitude is equal to the square of the **hypotenuse** minus the square of the base. (See Fig. 2)

$$CD^2 = CA^2 - AD^2 \text{ or } \text{Alt.}^2 = 1^2 - (1/2)^2$$

$$\text{Alt.}^2 = 1 - 1/4, \text{ or } 3/4$$

$$\text{Alt.} = \sqrt{3/4}, \text{ or } .866 +$$

The ratio of .866 to 1 is .866



The diagonal of the cube, AD , is the hypotenuse of the right triangle APD . (See Fig. 3.)

The base, DP , of this right triangle, APD , is also the hypotenuse of the right triangle PCD and may be called the diagonal of the face of the cube

PC, CD, AP , are edges of the cube, hence they are each one unit in length.

$$(1) \quad AD^2 = AP^2 + PD^2$$

$$(2) \quad \text{But } PD^2 = PC^2 + CD^2$$

Substituting this value of PD^2 in equation (1), we have

$$AD^2 = AP^2 + PC^2 + CD^2$$

$$(\text{Diag.})^2 = 1^2 + 1^2 + 1^2, \text{ or } 3$$

Diagonal $\sqrt{3}$, or 1.73205

The ratio of 1.73205 to 1 is 1.73205

14.

\$8,000.

Springfield, Illinois, Jan. 4, 1914.

For value received, two years after date, I promise to pay to William Roe, or order, at the First National Bank of Springfield, Illinois, Eight Thousand Dollars, with interest at five per cent per annum.

JOHN DOE

Endorsements—

1. Pay to John Jones, or order,

William Roe.

2. John Jones.

CIVICS.—Answers.

By H. Ambrose Perrin, Superintendent of Schools,
Lincoln, Illinois

1. The purpose of government is to direct and manage affairs that concern alike all people composing a group. This group may be large or small. The source of government in the United States is vested in the will of the people as expressed by their votes or thru their representatives.

2. The "town" of New England is a local government unit. It embraces from twenty to forty square miles of territory. Practically, it provides for all the affairs of the town and has officers for the same. In this system the county plays a relatively insignificant part. The officers are: Selectmen, Town Clerk, Assessor and Treasurer, Overseer of the Poor, Constables, School Committee, Justice of the Peace, Road Surveyors, Pound Keeper, Fence Viewer, and other minor officers.

The "township as ordinarily used means the town idea of government applied so that there is a more even distribution of powers, duties and officers between the town and the county. This is often spoken of as a township because it often agrees with the Congressional Township. In Illinois they are supposed to be organized townships as provided by law. However, but few Illinois so-called towns or townships correspond to the Congressional Townships. The officers of the township are: Supervisor, Clerk, Assessor, Collector, Constables, Highway Commissioners, Justices of the Peace and some other minor officers as needed. In Illinois, these officers are elected on the first Tuesday of April.

3. A representative's term is two years, senator's term is six years, President's term is four years, and Judge of the United States Supreme Court has a life term on good behavior.

4. Civil service is the use of the merit system in public service. It eliminates office changes due to political reverses and insures efficient and stable service.

Diplomatic service is our system of U. S. representatives to foreign nations. Such representatives administer political relationships between our nation and the nations to which they are delegated.

Consular service is our system of commercial representatives to foreign nations. Such representatives are stationed at most ports and large cities. They look after our commercial interests, administer the estates of deceased Americans and other duties in looking after the welfare of Americans abroad.

5. A writ of habeas corpus is a legal instrument by which a person accused of a crime may be brought into court and the cause of his imprisonment or confinement investigated.

A bill of attainder is a bill inflicting death or other punishment without judicial trial.

Appellate jurisdiction means that appeal may be taken to said court after the case has been tried in the lower courts.

An ex post facto law is one which makes an act a crime which was not so when the act was committed or which increases the penalty named in the statutes.

An indictment is the official paper furnished by the grand jury to the court when it (jury) has investigated criminal charges committed in the county against a person and advises that such person be brought to trial.

6. In the town system of county government, each town elects one or more supervisors, according to population, who serve as members of the County Board of Supervisors.

In the county system of county government, there is a Board of County Commissioners elected from the whole county. The duties of both boards are about the same, namely the transaction of county business. The Commissioner system centralizes county affairs and the management of the same. The Supervisor system divides the powers and most local matters are taken care of by township officers.

7. Each senatorial district is entitled to elect three members at the same time to the lower house of the general assembly. The minority party usually nominates only one or two candidates instead of three. The voters 'plump' casting 1 1-2 votes for each or 3 votes for one, thus, in most cases, insuring the election of a minority representative.

8. Illinois provides that the following may be excused from jury service; Public Officers, Ministers, Teachers, Physicians, Pharmacists, Undertakers and Embalmers, Firemen (Fire Department) Dentists and Trained Nurses.

This provision is based upon the importance of the social service constantly rendered the community and state. In some cases a jury is held for days and even weeks.

9. The great argument for the electoral system of electing the President originally was that the electors chosen would be men versed in political problems and would vote their decisions as to the candidate most fit to undertake the work of President.

The great argument against the electoral system is that in practice the electors blindly follow the dictates of the party. However under the popular election of electors the electoral system amounts to a popular election of the President by an indirect method. A further argument against the system is that it does not truly represent the true wishes of the people.

10. Dividing the total population of the state as shown by the last U. S. census by the congressional ratio gives the number of representatives. The ratio is the quotient found by dividing the total U. S. population by the number of members the house is to contain after the new apportionment which is made after the decennial census. Each state is entitled to at least one representative.

11. The most important committee in the house of representatives is the Ways and Means Committee. Its chief duty is to determine the amount of money needed to run the government and to choose methods for raising the same.

12. When a bill is introduced in either house, it is read by title, ordered printed and referred to a proper committee for consideration. If the bill is reported out favorably by the committee, it comes up for a second reading at which time amendments may be offered. After the second reading, the bill is ordered to be engrossed for a third reading. The vote on the final passage is by yeas and nays and is entered in the journal. The bill is now sent to the other house where it goes thru the same procedure. If passed as amended by both houses, it goes to the governor for his signature.

13. A fugitive from justice may be returned to the state in which the crime was committed by the governor issuing a writ known as a requisition upon the governor of the state in which the fugitive is found. The whole process of removing by requisition a person from one state to another for trial is called extradition.

14. The implied powers are based upon the elastic clause, "Congress shall have power to make all laws which shall be necessary and proper for carrying into execution the foregoing powers, and all other powers vested by this Constitution in the government of the United States, or in any department or office thereof."

A practical application of this implied power is the establishment of the U. S. Bank by advice of Alexander Hamilton. Hamilton claimed "necessary and proper" to mean suitable, not indispensable.

STATE COURSE OF STUDY.—Answers

By Charles McIntosh, Superintendent Piatt County Schools
and Editor of Illinois State Course of Study

1. Reading, including phonics and spelling, Language, Number and Construction Work, Writing and General Exercises, including music, drawing, Morals and Manners and Nature Study, which includes physiology and hygiene.

2. All things in our environment to which we attend help to educate us, hence the School Library may be made an instrument of great value in educating the children.

- (1) By furnishing plenty of easy but interesting reading material for the pupils in the primary grades (grades 1-3) the desire of the pupils to read this material causes them to get a large amount of practice in reading and helps them to master the mechanics of reading.
- (2) It helps to develop in the pupil the power of easy and rapid reading, without which their progress in the upper grades can not be what it should.
- (3) It helps the pupils to acquire the reading habit—a habit in which the pupils read for the pleasure thus afforded them.
- (4) It helps pupils to learn how to use books. Books of reference are of little value to a poor reader, but to a good reader all knowledge is accessible.

- (5) It helps pupils to acquire a fund of information about many subjects, makes them better informed and gives them a wider outlook upon the world, and gives each a wider view of his own possibilities.

The school library possesses all these values, it is needless to say, only when it is intelligently and wisely used. There should be two kinds of books in the library. First, books suitable to the children of all grades of high moral tone which pupils will find delight in reading. Second, books that give further information than their text books on the subjects they are studying in their classes. In other words, general reading books and reference books. Both are indispensable in every library.

3. The four aims of the State Course as given in the introduction are as follows:

First.—To furnish as a basis of work, to superintendents, teachers and directors, an outline of the various branches required by law to be taught in the schools of the State, arranged in the several grades, in accordance with established and approved methods.

Second.—To advance the pupil step by step, thru his school life, giving him credit for work done, and thereby lessening the evil effects of a too frequent change of teachers.

Third.—To unify the work in the common schools of the county by furnishing the basis for a closer and more effective direction and supervision, and for comparing by means of examinations, or written reviews, the results secured in the different schools.

Fourth.—To enable directors and parents to know better what the common schools are accomplishing for their children and to co-operate with teachers in the work.

4. No one thing has ever done more to uplift the rural schools than the introduction and intelligent use of the State Course of Study. Many rural pupils move about from one school to another. This moving is usually done in February or March,—at a time when the interest in the school is at its highest point, and unless the school to which they go is doing substantially the same grade of work as the school from which they come, the pupils suffer a distinct loss. Teachers of rural schools are frequently changed. Many of these teachers are young and inexperienced. Often they are without professional training of any kind. In many cases they have never attended a country school themselves. Because of these conditions, the rural schools need a fixed and a definite course of study. Without some unifying agency, without a course of study and a definite plan of organization carefully worked out, much of the time and energy of both teachers and pupils are wasted. In making the State Course, the conditions as they **exist in rural schools** have been kept constantly in mind, and an effort has been made to get the best possible course for the rural schools.

5. Alternation is the systematic and regular union of two grades of pupils on consecutive years of work, both grades doing the work of one year in one class, while the other year's work is entirely omitted. The next year, the work omitted is taken up, and the first year's work dropped. In this way, the pupils in the

seventh and eighth years' work can be taught in the same class, likewise the pupils in the fifth and sixth years' work. In the primary grades, the language work for the third and fourth years is arranged to alternate,—one year both classes taking the third year's work and the next year both taking the fourth year's work.

6. Suggestive program for the forenoon of a one room school.

Begin	Time	Year	Recitation	Seventh	Fifth	Third	Second	First
9:00	10	All	Open Ex.	***	***	***	***	**
9:10	10	1	Primary Wk.	Arith.	Arith.	Arith.	No.	**
9:10	10	2	Number	"	"	"	***	Seat Wk
9:20	10	3	Arith.	"	"	***	No.	"
9:30	10	7	Arith.	***	"	Arith.	Spell	Hand "
9:45	10	4	Arith.	Read.	"	Hand Wk.	"	"
9:55	5	All	Teacher directs	seat work.				
10:00	15	5	Arith.	Read.	***	"	"	Play
10:15	15	7	Reading	***	Read.	"	"	Play
10:30	Recess							
10:45	10	1	Primary work	Grammar	Read.	Spell.	Spell.	****
10:55	10	2	Spelling	"	"	"	***	Number
11:05	10	5	Reading	"	***	"	Spell,	"
11:15	10	7	Grammar	****	Read.	"	"	Hand Wk.
11:30	10	3	Spelling	Spelling	"	"	"	"
11:40	10	8	Grammar	"	"	"	"	"
11:50	10	7	Spelling	****	"	"	Hand Wk	"

7 Suggestive program for afternoon of a one room school.

		7th	5th	3rd	2nd	1st
1:00	10	All General exercises	***	***	***	***
1:10	10	1 Primary Work	Geog.	Geog.	Reading	***
1:20	10	2 Reading	"	"	***	Reading
1:30	10	3 Reading	"	"	***	"
1:40	10	5 Geography	"	***	Read	"
1:50	15	All writing or draw.	****	***	***	****
2:05	15	7 Geog aphy	***	Spelling	Language	Play
2:20	10	5 Spelling	History	***	Language	Play

2:30 Recess

2:45	15	1-2 Language and Nature Study	History	Language	Language	***	***
3:00	15	7 History and Civics	***			Language	Draw
3:15	15	3 Language and Nature Study	Physiology	"	****	"	Hand work
3:30	15	3 Language and Nature Study	Physiology	****	Language	Hand work	"
3:45	15	7 Physiology	***	Hand work	Hand work	"	"

8. (1) Provides a stimulus for reviewing and organizing the materials which have been taught during the term or year. If we wish these materials to be remembered and recalled, we must organize them in a logical way.

(2) An examination is an excellent review exercise. Every repetition adds to the stability and worth of the facts

and principles repeated, especially when we not only repeat but organize our knowledge.

- (3) The examination is of value as a test of the efficiency of the teaching.
- (4) The examination may be looked upon by the pupil as a partial test of his efficiency in school work.

The disadvantages of an examination system may be counteracted in part by

- (1) Having the examinations preceded by thoroughgoing reviews.
- (2) By giving the formal examinations only at the close of the term, but giving informal tests thruout the term.
- (3) By giving such questions as will require ability to apply and use facts and principles in new ways.
- (4) By exercising great care that nervous pupils be not unduly worried over the examinations.
- (5) By requiring all pupils regardless of the quality of their monthly work to take the examinations.

Patron's Day is a day formally set apart for the exhibition to parents and school patrons of the work of the school. The observance of Patron's Day helps to acquaint the parents with the kind of work that is done in school, helps to bring them into closer sympathy with the school, enables the teacher to get the parents' point of view on school matters, and enables the teacher to set forth to the parents the needs of the school.

9. The sources of reading material for beginners as suggested in our State Course are as follows:

- 1. Room-management.
- 2. Games and plays.
- 3. Stories given to children in literature.
- 4. Nature-study.

- 10. (1) Choose for class exercise in spelling only such words as are (a) somewhat familiar to almost all pupils in the class (b) in common use (c) have orthographic difficulties. Do not waste time on words that pupils know and know well.

(2) To learn spelling in the most economical way use the sense of sight, the muscular sense and the sense of hearing.

(3) Depend mainly on written spelling which employs the sense of sight and at the same time the muscular sense. Review by spelling orally.

(4) Words misspelled in writing should be written several times on a number of different days.

(5) Lead pupils to form the habit of studying carefully all new words as they come to them in all their lessons and in their general reading.

11. Review of notation and numeration, review of fundamental processes of addition, subtraction, multiplication and division, review of fractions, denominate numbers, percentage.

12. King Midas; Elves and Shoemaker; The Valiant Black-bird; One Eye, Two Eyes, Three Eyes; Why the Sea is Salt.

- (1) Read entire story to children (2) read again, part each day commenting on story as you go along, permitting children to ask questions, having them repeat parts of it. Then have some pupil tell entire story, at first perhaps with teacher's help. Finally dramatize the story.

Aims in teaching phonics are:

- (1) To give the child a real mastery of the printed page (2) to make him as independent as possible in his reading (3) to help him to grow steadily in his ability to help himself (4) to lead to clear enunciation. For plan for teaching phonics, see page 25, State Course of Study.

ORTHOGRAPHY.—Answers.

By O. C. Bailey, Superintendent of Schools,
Effingham, Illinois.

1. al ly', cer' e brum, dis course', i de' a, in' dus try, in' quir y, gon' do la, ho ri' zon, re cess', for' mi da ble.

2. grātis, dēaf or dēaf, ārid, pīano, water, chāsten ,prōduce, fōrehead, bouquet.

3. whey, meat, fern, dēbt, heīr, chūrch, human, rule, pull, cūp.

4. 1. ante, before; 2. anti, opposite; 3. an(te), before; pre, before; 5. se, aside; 6. bene, well or good; 7. e, out of; 8. ob(of), against; 9. im, on; 10. im, in, into, on, not.

5. (a) beginning, benefitted, abhorrence, merited, stirring, acquitted, conference, galloped, heaped, occurrence.

(b) Monosyllables, and words accented on the last syllable ending in a single consonant, preceded by a single vowel, double the final consonant on receiving a suffix beginning with a vowel sound. Exceptions are "ce" and "ge" before "able".

6. vene, to come; plus, further; sequi, to follow; credere, to believe; doto, given; norma, a rule, regular; cogno, to know; gradi, to step; cado, to fall; fortis, strong.

7. intercede=(inter=between, cedere=to go), to go between; to pass between; to interpose.

dissect=(dis=apart, secare=to cut), to cut into pieces; to divide.

bisect=(bi=two, sectus=to cut), to cut or divide into two parts.

persecute=(per=after, sequi=to follow)=to follow after; to pursue for the purpose of inflicting injury; to harass.

expire=(ex=out, spirare=to breathe)= to breathe out; to emit the breath.

admonish=(ad=to, monere=warn),=to warn of a fault; to reprove with mildness.

contaminate=(con=together, tangere=to touch)=to corrupt; to defile; to touch together things that are not supposed to be together.

circumvent=(circum=around, veno=to come),=to gain advantage over by strategy; to impose upon.

PEDAGOGY—Answers.

By L. P. Frohardt, Superintendent of Schools, Granite City, Ill.

1. The first day at school is a very important one because first impressions, which are the most lasting, are then formed. If the teacher makes a good impression the first day it will save her many a useless annoyance, but if the start is poor because the teacher lacks self-control or does not display good tact and act with precision matters soon get into a chaotic state and it will be hard to establish regular routine and inaugurate good systematic work. The teacher should come well prepared and equipped for the first day by having well laid plans worked out and all the necessary supplies and materials on hand to start off with a full day's work the first day.

2. The assignment of a lesson is one of the most important parts of a text-book lesson. The assignment should be definite and clear so that the pupil knows just what is expected of him and that he has also the necessary assistance from the teacher to understand difficult words or passages and have any insuperable difficulties removed. Caution should also be exercised not to make the work too easy for the pupil. The latter must be held responsible for a definite amount of work done by himself so that he may be ultimately led to become independent of the teacher in working out an assignment or any problem.

It should further arouse an interest in the subject matter of the text and furnish him a motive for an aggressive attack.

3. A teacher may, (1) in most of the northern states, compel a pupil by law to attend; (2) the teacher may use rewards or penalties or both. Rewards may be in the form of prizes, immunities or privileges. Prizes may be material, as little gifts or tokens when certain standards have been reached, or immaterial prizes, such as a certificate of honor, special rank in class, special seats, honor roll, publishing of names in papers, etc. All these devices may be beneficial and helpful if properly managed, but attendance should never be enforced or secured beyond a certain limit. Health should never be endangered to secure a high standard of attendance.

4. Bad posture in sitting and standing or awkward, clumsy or slovenly walking may lead to malformations of body and ill health or result in careless and slovenly habits of life which may end in bad conduct and character.

We may help them best by setting a good example before them ourselves and be ever on our guard to correct promptly any bad sitting or standing position, or awkward walking before habits have become fixed.

5. Bad habits can best be broken up by constant vigilance to

see that they are corrected and new and correct ones are established in the place of the wrong ones.

6. The best and most economic way to memorize is to be placed in suitable environment, one free from strange noise, rapid movements, or anything that may dissipate the mind and keep it from focalizing itself upon that which is to be memorized, immediately correcting any errors that may creep in, especially in the earlier stages of committing anything, is an essential condition. This is imperative since an error allowed to be repeated is harder to get rid of than to learn something new in the first instance. Therefore constant conscious repetition without exception till the matter is firmly fastened in the mind will be the quickest way to memorize anything.

7. The following items must be considered in making a program: (a) Length of school-term; (b) number of school hours during the day; (c) number of subjects to be required; (d) time devoted to recess and intermissions; (e) relative importance of subjects at different levels of child's development; (f) relation of different types of subject-matter to fatigue; (g) number of pupils in the different classes; (h) time devoted to exercises of all kinds.

8. Attention is the focalization of the mind upon the subject before us. The sun's rays in passing thru a lens fall upon a paper without any apparent effect until the rays are focalized to a small spot, and then a hole is burned. So it is with the mind, its powers, figuratively speaking, must be brought to the burning point.

A child can give good attention only when no distracting noise, strange sounds of any kind or rapid and unusual movements are permitted.

9. Drills may be physical or mental. Physical drills are for the purpose of automatizing certain muscular movements; mental drills are for the purpose of fastening permanently in the mind certain facts, forms, precepts, or principles.

Two things are necessary in a good drill, viz.: (1) Focalization of mind or consciousness upon the process; (2) constant repetition upon the process, permitting no exception till automatism results.

A good drill in arithmetic, say upon a multiplication table, would be first the mastery of the correct combination, as 3×9 is 27, not 28, 26 or any other result except the correct one. Then repetition of this combination several times, changing the order, as 3×9 , three nines, nine times 3, nine threes, etc. Go over other familiar combinations rapidly bringing in the combination to be mastered, till it comes as easy and natural as any other known combination.

The focalization of consciousness upon any combination, word or process is absolutely essential at first, but the act should be repeated till it becomes automatic.

10. Some of the advantages of departmental work immediately below the high school is that the work can be placed in the hands of teachers who have a special aptitude, special training or fitness for some subjects and can be so assigned that the best trained and equipped teachers are in charge of the work. This cannot so well be done when each teacher teaches all the ordinary subjects.

In the departmental plan teachers usually have only to look after the instruction of the pupils of the class as no other pupils are in

the room at the time of the class instruction, which is an advantage both for the teacher and the pupils who would have to sit and study while a recitation on another subject is conducted in their presence, and their minds cannot so well be fastened on the lesson to be studied, nor can the teacher's whole mind be on her class instruction while she must have her mind partly on the other pupils in her room.

Some of the disadvantages are the lack of that intimate relationship and sympathy that springs up between teacher and pupils in a school room when the same teacher and the same pupils are together in the same room for time. Pupils can say, this is my teacher, not one of my teachers, and the teacher can say and feel these are my pupils. This closer acquaintanceship and sympathy cannot be established between teacher and pupils in the departmental plan. The life influence of a teacher over her pupils, which is a vital factor in all education, especially in the moulding of character, can not be made so potent in the departmental teaching where the teacher comes in contact with so many different ones none of whom she can so thoroly understand and take such deep personal interest in.

11. Difficulties in high school management: (1) Tardiness is usually much greater in the high school than in the grades, as high school students' services at home or at some shop or business house are much more in demand. There is also an air of independence and indifference at times in high school pupils not found in grade pupils.

Tardiness may be overcome by making the opening exercises of such general and intense interest that pupils feel they cannot afford to miss them. If this will not prove sufficient for some, more drastic measures may have to be adopted. Non admission to classes unless by a special permit from principal or superintendent or both, which involves considerable inconvenience and embarrassment to the pupil may prove effectual. In some cases special work imposed and time to be more than made up after school hours may prove effectual. (2) Cheating in examination. This may be cured by raising the general standard and sense of honor. Close vigilance while examinations are carried on and a total failure of any one who is guilty of any dishonesty are usually effectual remedies. (3) Too great attraction toward one another on the part of some of the students of opposite sexes. Encouraging the mingling of the sexes under proper guidance and restraints in social events will tend rather to prevent than increase undue intimacy. Too great propinquity without restraint is to be guarded against. If any two show an undue interest in each other they should be kept at a distance from each other by being seated in opposite parts of the assembly or study room and prevented from mingling too freely during, after, and before school sessions while on the school premises or in the school building.

12. Young people in the high school should not be required to follow every little detail of routine in the same manner as is generally done in the grades, such as passing to and from their rooms, to their seats, sitting or standing in class, etc. This does not mean that high school students should be absolutely exempt from every phase of orderly routine, but it should be more of a general nature. They should have greater opportunity to exercise their own judgment, be en-

trusted with a greater responsibility of self government, exercise their own individuality.

The period of adolescence needs a wider scope and range of freedom. They should be put largely on their own sense of honor, treated more nearly like adults, and should be encouraged to act more on their initiative. They should be carefully guided and not so much guarded in their actions.

ELEMENTARY SCIENCE.

By Roy M. Sallee, Galesburg, Ill.

Formerly Assistant in Biology, Western Illinois State Normal School.

1. (a) Wind: (Illustrations.) Thistle, dandelion, elm, linden, milkweed, etc.
- (b) Animals: (Illustrations.) Squirrels burying nuts which are never used.
Birds dropping fruit seeds along fences or under trees.
- (c) Special Structures: Cocklebur, sandburs and beggars' lice have hooks to catch in the fur of animals, or the clothing of people.
2. (a) (1) Cocklebur. (4) Pig weed.
(2) Wild morning glory. (5) Smart weed.
(3) Wild mustard.
- (b) Some of the qualities which fit plants to thrive in cultivated fields are:
 1. Strength or vitality.
 2. The habit of seeding after cultivation has ceased.
 3. Ability to grow and produce seeds under unfavorable conditions.
3. Five Serious Insect Pests, and methods of fighting them.
 - (1) White grub or grub worm.—Allow hogs that have not had rings placed in their noses to run in the field and root freely.
 - (2) Corn root worm.—Do not allow field to remain in corn for more than two successive years.
 - (3) Chinch Bug.—Keep fields free from rubbish. Burn weeds and grasses in April just after the bugs have come out of their winter hiding places. If the bugs are very bad stop wheat growing for a few years.
To prevent bugs from going from wheat fields to the corn fields surround wheat field with a dust strip one yard wide. (Do this by plowing and pulverizing.)
 - (4) Cutworms.—Break sod preceding year. If replanting is necessary replant as late as possible.
 - (5) San Jose Scale.—Spray with a Lime-Sulphur Mixture. (Formula should be taken from Agricultural Text Books, or from State Experiment Station Bulletins.)
4. Our common birds may be divided into the following classes taking into consideration the time they spend in a given locality.
 1. Permanent residents.
 2. Summer residents.
 3. Winter residents.
 4. Migrating Visitors.

5. (a) Three varieties of corn commonly grown in Illinois:

1. Reid's Yellow Dent.

3. Leaming.

2. Johnson County White.

- (b) Selection and Care of Seed Corn:

Select seed corn in the field just before heavy frosts. Take ears from healthy looking stalks which have grown under ordinary field conditions. Ears should not be taken from very tall or very short stalks.

After the selection of the ears they should be placed in a cool dry shed either on shelves or on hangers.

A severe freeze weakens the germ in the seed. During very cold periods keep a small fire in the store room.

6. (a) When air is heated it expands. This warm expanded air is lighter than the colder air which is outside the stove or furnace. The colder heavier air pushes into the furnace or stove and forces the warm expanded air upward. This cool air becomes warmed, and expanded, and is then forced upward by the colder heavier air.

- (b) When a damper on a stove or a furnace is closed the warm air cannot pass away so rapidly. This also prevents the cold air from pouring thru the stove or furnace so rapidly. The fire is then checked because the air is not fanning it so much.

7. (a) Two different methods by which certain plants are able to climb:

(1) By twining.

(2) By tendrils or hold fasts.

- (b) The climbing plants are able to reach upward a long ways in order to get to the sunlight. Because of this, climbing plants can grow where they could not were it not for this habit.

The main disadvantage is the long distance which the water must be carried before the leaves of the plant can use it to manufacture food materials.

8. (a) A biennial plant is a plant which lives but two years. During the first year it stores up food which it uses in seed production during the second year.

- (b) Three biennial garden plants:

1. Cabbage.

3. Parsnips.

2. Turnips.

9. Weather record facts to be noted and recorded:

1. Temperature.

3. Strength of wind.

2. Direction of wind.

Strong

Calm

Weak

4. Condition of Atmosphere.

Cloudy.

Overcast.

Clear.

5. Form of Precipitation.

Rain.

Hail

Snow

Sleet

6 Amount of Precipitation.

Much

Little

None

If a rain gauge is available state amount in inches.

7. Barometer Reading.

10. Cuttings of begonias or geraniums may be made by breaking off one of the smaller branches, removing most of the leaves from this branch and then planting the branch in moist sand. It is often advisable to turn a common glass upside down over the plant for a few days. This saves the moisture which is in the plant.

Sweet potatoes are propagated usually by planting a few whole sweet potatoes in a hot bed. A number of sprouts will soon come thru the ground. As soon as these sprouts are about three inches in length they are pulled up and set out.

These sprouts are the commercial sweet potato plants. Sometimes three or more sets of plants may be obtained from the one sweet potato. As soon as one set is pulled another one sprouts. This continues until the stored food materials in the potato are exhausted.

Sweet potatoes may also be propagated in the same manner as common potatoes, viz., by cutting the potato in pieces and planting the pieces.

PHYSIOLOGY.—Answers.

By H. T. White, Superintendent of Schools,
Carlinville, Illinois.

1. The four main classes of foods are minerals (water and mineral salts), proteids, fats, and carbohydrates. All these except either carbohydrates or fats are indispensable in our diet.

2. Most of our food must be softened and made into liquid form before it can enter the blood. This change is brought about by the operations of chewing, softening, dissolving, and otherwise changing the food so as to fit it to pass thru the cell walls into the blood vessels. These operations constitute the process called digestion.

3. The blood has four uses: it regulates the temperature of the body, takes food to the tissues, takes oxygen to the tissues, and brings waste matter from all parts of the body, thus ridding the body of its poison.

4. Pure air, as it is taken into the lungs, contains in every 10,000 parts, approximately four parts of carbon dioxide, 2,000 parts of oxygen, and 8,000 parts of nitrogen. When it comes from the lungs it contains approximately 400 parts of carbon dioxide, 1600 parts of oxygen, and 8,000 parts of nitrogen.

Blood that is just entering the lungs is laden with carbon dioxide which gets out of the blood thru the thin walls of the lung cells into the lung cells. While this is going on fresh oxygen is going from the lung cell thru its thin walls into the blood, hence blood just leaving the lungs is laden with oxygen.

5. Water from shallow wells is likely to be contaminated. Many shallow wells are polluted by refuse from stables and by other filth. Shallow wells are easy receptacles for disease germs, especially typhoid germs.

Common drinking cups are very risky because disease germs are left on them by some mouths and then are taken from the cups into other people's mouths.

6. In a well heated room the heat is as evenly distributed as possible. The temperature in a room where people are sitting quiet should be about twenty degrees centigrade or sixty-eight degrees Fahrenheit. The air should be kept moist by a pan of water on the stove or register.

7. School desks and seats should be high enough so that pupils will not feel cramped and yet not so high that their feet do not reach the floor while they are sitting. Pupils should train themselves to sit erect.

8. Regular exercise out of doors if possible, or at least in an atmosphere of fresh air, tends to keep the body in a healthy state. It aids in purifying the blood thru deep respiration. It gives tone to the muscles and the nerves. It helps the lymphatic circulation as well as blood circulation.

9. Secretions are for use in the system e. g., saliva and gastric juice are made to help digest our food. Excretions are made for the purpose of getting rid of the waste, that which is of no further use to the body. The kidneys and the skin are the chief excretory organs of the body.

10. To prevent taking cold when your clothing becomes damp or your feet wet, keep moving until there is an opportunity to put on dry clothing and dry shoes and stockings. Never sit still in a room where the air is cold enough to make you chill, move about until the temperature is brought up to 68 degrees F.

11. Only about twenty different kinds of bacteria produce disease in man. Diseases caused by germs are known as infectious diseases because the germ infects or makes its way into the body. Bacillus tuberculosis causes consumption, scrofula, and white swelling. The diphtheria bacilli, growing in the throat, produce diphtheria. Pneumonia, sore throat, and colds occur when certain bacteria are present in great numbers. They may find entrance thru the alimentary canal, the lungs, or the skin. Germs like those of tuberculosis and typhoid fever may reach the intestines with food or water, and penetrate the cells there, and even pass thru the walls of the intestine into the blood to be carried to any part of the body."—Human Body and Health, Davidson, page 50.

12. When the hand touches a very hot object the sensory nerves carry the message to the spinal cord which sends back to the hand thru a motor nerve the reply, "Take it off." All this happens within one-twentieth of a second, and the hand is removed even before the brain is aware of what has happened. This power of the spinal cord over muscular movements is called reflex action.

13. The windows of a school room should be grouped in the rear half or two-thirds of the wall at the left of the pupils. Each window should extend as near to the ceiling as possible. It should not extend lower than the tops of the pupils' heads while they are seated. The window space should be at least one-fifth of the entire

floor area of the room. Shades should be arranged so that direct sunlight will not fall upon the books nor upon written work on the blackboard. If possible, every school room should be supplied with artificial lights, preferably electricity, to supplement sunlight on gloomy days.

14. "Fainting may be caused by pain, fatigue, loss of blood, the sight of some gruesome object, such as flowing blood, or by a hot and badly ventilated room. The face is pale, the lips white, and the breathing is quickened, while cold sweat appears on the brow and the palms of the hands. As fainting is caused by insufficient supply of blood to the brain, the patient should be laid flat on the floor. Then the doors and windows must be opened and the clothing loosened, while cold water is sprinkled on the face. Recovery should occur in a few minutes. As soon as the patient is able to swallow give sips of hot milk or water. Swallowing stimulates the heart. Do not give alcohol."—Human Body and Health, Davidson, page 294.

PENMANSHIP.—Answers.

By O. C. Bailey, Superintendent of Schools,
Effingham, Illinois.

1. (a) The body should be placed before the desk, in a half right position, (this is the better position, because in the average school room there is not room for the front position), about two inches from the edge of the desk, and in an upright position.
The feet should rest firmly and flatly on the floor.
The right elbow should rest on the lower right corner of the desk, and the arm extended across the desk at an angle of 40 degrees. The left hand rests on the paper in front of the right hand and at right angles to it.
- (b) Hold the pen between the first and second fingers and the thumb. The first finger bends naturally and rests on the top of the holder, about one inch from the point of the pen. The pen holder rests on the second finger, crossing it near the root of the nail. The thumb rests on the holder nearly opposite the first joint of the first finger. The third and fourth fingers are bent, resting on the paper and forming a movable rest. (Palmer Method).
2. The state course of study, in the suggested program on pages 10 and 11, provides for but one period of writing daily in a rural school. The period is 15 minutes, and all write at this time.
Primary pupils should have a part of the time at the board. Give them the first seven and one-half minutes at the board; the balance of the fifteen minutes at their seats. Primary pupils should always have a writing period at the board followed by one at the seat, to keep them from forming the habit of the full arm movement.

In view of the fact that the rural school program is always in a crowded condition, I would say that the above is the best arrangement.

3. Young children are asked to write larger, in order,
 - (1) To give them a freer movement;
 - (2) To avoid the tendency to use the fingers;
 - (3) To avoid cramped work.

Copy books should not be used. After the first few lines are written, the pupil ceases to refer to the copy and makes a copy of his own. Copies are necessary, however, and a movable manual is much better. The pupil can move this down and with it cover up his work.

4. Effingham, Ill., July 26, 1914.
Board of Education,
Effingham, Illinois,

Gentlemen:

Please consider me an applicant for the position of teacher in the Third Grade of your schools.

Inclosed find testimonials concerning my character, education, and success in former positions.

For additional testimonials I would like to refer you to Supt. J. W. Davis, Effingham, Ill., and Pres. L. C. Lord, E. I. S. N., Charleston, Ill.

Thanking you for the courtesy of a hearing, I am,

Yours truly,

(Miss) Effie St. Clair,
Effingham, Illinois.

5. Calls for applicant's own writing.
6. (a) The finger movement is the so-called movement of the fingers; an upward and downward movement. It should be little used.
- (b) The forearm movement is the real movement in writing. It is called muscular movement, because it is controlled by the muscles of the forearm. The arm rests upon the muscles of the forearm, and moves upon these muscles, the fingers being held in a natural and easy manner, and the letters being formed by the push and pull of this muscle.
- (c) The combined movement is a combination of these movements for the more elaborate work of the pen artist. The fingers are moved slightly in connection with the movement of the muscles to give peculiar shading.
- (d) Primary, intermediate, and grammar grade pupils can and should be taught the muscular movement. It is logical, easily learned, and is less exhausting than any other movement.
7. (a) The Muscular movement.
Place the arm on the desk, the elbow near the right hand corner of the desk, the arm resting on the muscle. Let the hand rest lightly upon the third and fourth fingers. Move the hand backward and forward a number

of times to get the movement before the pen touches the paper.

Drop the pen to the paper and make the push and pull exercise, crossing two spaces.

Then make the oval exercises as in the capital letter "O", also crossing two spaces.

Hold the fingers in natural position, and without gripping the pen holder. Let it glide smoothly over the paper without any effort from the fingers. Do not work the finger joints.

GRAMMAR.—Answers

By Miss Myrtle Gentry, Instructor in Summer School State Normal University and teacher in Wichita, Kansas

1. The words, "a little old man with a long beard hobbling to meet them", do not assert; therefore they do not form a sentence. The words, "a little old man with a long beard hobbled to meet them," do contain an asserting element in the verb hobbled; therefore this group of words forms a sentence.

2.

Complete Subject

(a) you

(b) you (understood)

(c) all legislative powers
herein granted

Complete Predicate

are who

think on these things,
if there be any virtue,
if there be any praise.

shall be vested in a Congress
of the United States, which
shall consist of a Senate
and a House of Representatives

3. (a) cities'

The plural form of the noun city is cities.

Plural nouns ending in **s** make the possessive form by the addition of the apostrophe only.

(b) knives.

The singular form of this noun ends in **fe**. It forms its plural by changing the **fe** to **ves**.

(c) feet.

This noun changed the vowel of the root to form its plural.

(d) writing-desks.

The main word of a compound word is generally made plural. The word desk is the main word.

(e) men-servants.

Compounds consisting of two nouns sometimes inflect both parts.

(f) mouthfuls.

When the parts have become so united that the word hardly seems a compound word, the tendency is to make the last part plural.

(g) gentlemen's.

Plural nouns not ending in s make the possessive form by the addition of the apostrophe and s.

- (h) brother-in-law's.

Compound nouns form the possessive by adding the possessive sign to the last word of the compound.

3. (b) Either of the following plurals is correct: The Misses Jones or The Miss Joneses. In like manner, either of the following plural possessives is correct: The Misses Jones' or The Miss Joneses'; however, the phrase of the Miss Joneses, or of the Misses Jones will generally prove less awkward. Then, according to the general rule, the plural possessive of **alumnus** is **alumni's**; but the general custom is to substitute the phrase of the **alumni** for the possessive form.

lady—ladies'

alumnus

house—houses'

state—states'

4. (a) This sentence consists of two independent propositions. It is a compound sentence.
 (b) This sentence consists of but one proposition. It is a simple sentence.
 (c) This sentence contains two independent propositions. Each part contains also a dependent clause. The sentence is complex-compound.

5. Person is that peculiarity in the form or use of a noun or pronoun that shows whether it represents the speaker, the one or ones spoken to, or the one or ones spoken of.

In most languages, person, so far as rules are concerned, is the inflection of a verb to show the person of its subject. In modern English except for the verb **be** there remains no such inflection except in the third person, singular number, present tense, indicative mode. We simply keep on talking about person because other languages possess this inflection and English once did.

A personal pronoun is a pronoun that shows by its form whether it represents the person speaking, the one spoken to, or the one spoken of.

Declension of the Personal Pronoun of the Third Person.

	Singular			Plural
	Mas.	Fem.	Neut.	All genders
Nom.	he	she	it	they
Poss.	his	her, hers	its	their, theirs
Obj.	him	her	it	them

6. Subject. **That Wilson is a good president** is not denied.

Predicate Attribute—**My belief is that he is guilty.**

Object—I have heard **that the concert has been postponed.**

Appositive—She had heard the saying, "**Birds of a feather flock together.**"

7.	Present	Past	Past Participle.
	lie	lay	lain
	lay	laid	laid

Synopsis of the verb **lie** in the indicative mode, third person, and singular number.

Common Form

Pres.	He lies
Past	He lay
Future	He will lie
Pres Perf.	He has lain
Past Perf.	He had lain
Fut. Perf.	He will have lain

Progressive Form

He is lying.
He was lying
He will be lying
He has been lying
He had been lying
He will have been lying

Emphatic Form

He does lie
He did lie

Synopsis of the verb **lay** in the indicative mode, first person, and plural number.

Common Form

Pres.	We lay
Past.	We laid
Future	We shall lay
Pres. Perf.	We have laid
Past Perf.	We had laid
Fut. Perf.	We shall have laid

Progressive Form

We are laying
We were laying
We shall be laying
We have been laying
We had been laying
We shall have been laying.

Emphatic Form

We do lay
We did lay

8. (a) Rules for punctuation cannot be understood without a knowledge of sentence analysis. The following rule illustrates this fact:

An appositive, a purely descriptive adjective clause, an adverbial clause, out of its natural position, and a nominative of address are set off by the comma.

The parts of a compound element are separated by the comma unless all the conjunctions are expressed or unless the parts are connected in pairs. In the latter case the pairs only are separated.

The parts of a compound sentence are separated by the comma, even tho the conjunctions are expressed, unless the parts are long and contain commas within themselves. In this case the parts are separated by the semicolon.

A prepositional phrase which is long and out of its natural order is often set off by the comma.

Grammar is of value because it teaches us:

- (1) How to choose correctly between the inflected forms of words.
- (2) how to frame clear and well constructed sentences, and
- (3) how to get at the thought of long and complicated sentences that we meet in reading.

Now in our slightly inflected English language, the only one of all the points given in parsing that is of any great help to us in any of these ways is the construction of the word. This is worth more than all the other points taken together, and this is deter-

mined by sentence analysis. It is therefore a great waste to spend much time in giving the full parsing of words.

9. The objective form of a noun or a pronoun should be used in the following constructions:

- (1) Object of a verb, verb phrase, or verbal.
- (2) Predicate attribute of the object.
- (3) Object of a preposition.
- (4) Adverbial substantive, including indirect object.
- (5) In apposition with a noun or pronoun in an objective construction.
- (6) Subject of an Infinitive.
- (7) Joined to a noun or pronoun in an objective construction by a verbal of a copulative verb.
- (a) Who made that noise **Only I**.
Subject of the verb understood.
- (b) This is the student **whom** all are praising.
Object of verb phrase are praising.
- (c) **Whom** is that for?
Object of the preposition **for**.
- (d) We thought it was **he**.
Predicate attribute in noun clause.
- (e) We boys **are going** to the ball game.
Subject of the verb phrase "are going."

10. (a) We have heard the news.

The words **have heard** are an attributive transitive verb phrase. It is made up of the verb **have** and the verbal **heard**. The verb **have** is an irregular weak verb. The verbal **heard** is a form of the verb **hear** which is an irregular weak verb.

(b) The days are growing colder.

The words **are growing** are a copulative verb phrase. The verb **are** belongs to the old conjugation. The verbal **growing** is a form of the verb **grow** which is a strong verb.

(c) We should observe keenly.

The verb **should** is an attributive transitive verb.
It is an irregular verb.

(d) There lay the lost pocket book.

The verb **lay** is an attributive intransitive verb. It belongs to the strong conjugation.

(e) Set the table quickly.

The verb **set** is an attributive transitive verb. It belongs to the weak conjugation.

11. The word **morning** is a common noun. It is of the third person, singular number, neuter gender, objective case. Its declension is:

	Singular	Plural
Nom. and Obj.	morning	mornings
Poss.	morning's	mornings'
It is used as an adverb modifier of the verb rose .		

The word **before** is a subordinate conjunction. It joins the adverb clause, **before the sun was up**, to the verb **rose**.

The word **was** is a copulative verb. It belongs to the strong conjugation. Its principal parts are **be, am, was and been**. It is in the indicative mode, and past tense. It is in the third person, singular number, to agree with its subject **sun**.

The word **rose** is an attributive intransitive verb. It is a verb of the strong conjugation. Its principal parts are **rise, rose, risen**. It is in the active voice, indicative mode, and past tense. It is in the first person, and singular number, to agree with its subject, **I**.

12. (a) Before verbs are classified as transitive and intransitive, they have been classified as copulative and attributive.

Classify the verbs in the following sentences as copulative or attributive. Name the idea that every attributive verb expresses.

1. Take this book home.
2. The days grow cold.
3. I have many books.
4. She grows rapidly.
5. There are many people in need now.
6. We should help them.
7. They need food and clothing.
8. The snow falls steadily.
9. The boys pull their sleds up the hill.
10. They coast down the hill.

The verbs in sentences 1, 3, 4, 5, 6, 7, 8, 9 and 10 are attributive verbs. These verbs in sentences 1, 3, 6, 7 and 9 express transitive action, possessive, obligation, or need. These verbs are transitive verbs. The other verbs are intransitive verbs.

Definitions. A Transitive Verb is a verb that expresses (1) a transitive act, (2) possession, (3) obligation, or (4) lack or need.

An Intransitive Verb is a verb that does not express (1) a transitive act, (2) possession, (3) obligation, or (4) lack or need.

- (b) Review and drill lesson on the three kinds of clauses.

Analyze the following sentences and classify the clauses as adjective, adverbial, or noun. If the clause is an adjective clause, tell whether it is a limiting or purely descriptive clause. If adverbial tell what idea the clause expresses. If a noun clause, give its construction in the sentence.

1. The house that stands on the hill belongs to Colonel Smith.
2. I know that he received the message.
3. He came when his turn arrived.
4. The house stands where three roads meet.
5. We study the lessons which the teacher assigns.
6. The thought that vacation was near kept our energy up.
7. I will pay you if you will do the errand.
8. Mr. Smith, who is my friend, is passing.

9. That you have done your work well is evident.
10. The man worked, tho he was very tired.
11. Our difficulty was that we were scarce of money.
12. He gave the money that he might help the poor.
13. The children work as they play.
14. He promised everything except that he would return to school.
15. They sent for him because he was needed.

(c) Classification of nouns as common and proper.

The following nouns are names of the same person: **man, father, American, Andrew Blake, farmer, student.** How many of these names does he share with other persons, or have in common with them? With whom does he share each one? Which one is **his own, his unshared,** name? The following nouns are names of the same place: **city, New York, sea-port, metropolis.** Which names does this place share with other places? Which one is unshared, or is applied to it alone?

The word **proper** means **one's own** or **unshared.** The nouns **Andrew Blake** and **New York** are proper nouns. What then is a proper noun?

The word **common,** in the sense in which it is used in grammar, means **belonging to more than one.** All the nouns that you have examined except **Andrew Blake** and **New York** belong to, or are applied to, more than one thing. They are common nouns. What, then, is a common noun?

Other kinds of common nouns must be studied in later lessons.

13. (a) No English verb has a passive form. Transitive verb phrases have a passive voice.
 - (b) Passive verb phrases are formed by the use of some form of the verb **be** and a perfect participle.
 - (c) The object in the original sentence becomes the subject of the passive verb phrase.
The subject of the verb in the active voice, if it is not omitted, becomes the object of the preposition **by,** when the verb is changed to a passive verb phrase.
 - (d) The passive voice is used (1) when the name of the actor is unknown, (2) when the speaker does not wish to tell the name of the actor, (3) when the speaker wishes to attract more attention to the other thing involved in the act than to the actor. It may also be used occasionally for the sake of variety.
The passive voice is much overworked by many persons. In most cases, the active voice is simpler and more direct, and it should be used unless some special reason for the use of the passive exists.
14. **He has gone to the city where he always liked to visit.**
If the speaker had ahead been talking about some particular city and the hearer knew what city he had in mind, the clause in this sentence is purely descriptive and

should be set off by the comma; thus, He has gone to the city, where he always liked to visit.
If, on the other hand, the clause is needed to show what city the speaker had in mind, it is a limiting clause and no comma should be used.

GEOGRAPHY.—Answers.

By Herbert Bassett, Teacher of Geography,
Western Illinois State Normal School.

1. Three elements of climate are heat, moisture and wind. (Sometimes sunshine is given as a fourth.)

Washington and Maine are both in the Prevailing Westerlies, hence Washington has an oceanic climate, while Maine has a continental climate. The Westerlies, on ascending the Coast Range and Cascades, give western Washington the heaviest rainfall in the United States.

2. England must be a great commercial nation, primarily because of a large industrial population which must have food, raw materials for manufacture, and markets for its products.

The insular position, good harbors, position relative to other nations, moist climate favorable for textile manufacture, abundant coal which means power for manufacturing purposes, absence of great agricultural areas, and character of the people, all contribute to the same end.

England needs colonies to produce raw materials for her factories and to provide markets for her manufactured goods. A large merchant marine demands a strong navy for its protection.

Five geographic conditions that may determine the location of cities are: 1st, good harbors, examples, New York, Liverpool, San Francisco.

2nd, Power for manufacturing purpose, either in the form of water power or coal. Examples of water power, Niagara Falls, N. Y., and The Fall Line Cities, of Eastern United States. Examples of coal, for power, Pittsburg, Pa., Chicago, near coal fields.

3rd, The crossing of highways of travel. Ex., Indianapolis is a Railroad center. St. Louis is at the crossing of the Mississippi R. and Railroads running East and West.

4th, A rich hinterland, from which many products are sent. Examples, Chicago and New York.

5th, Some local natural resource. Copper, at Butte, Montana, and Houghton and Hancock, Michigan. Diamonds at Kimberley, Africa.

4. It is warmer in summer than in winter; 1st, because the rays of the sun are more nearly vertical in summer than in winter. These vertical rays have more effect in raising the temperature for two reasons: 1st, because a given number of rays cover a smaller area, and as a consequence the heat is all concentrated on a smaller area,

and, 2nd, the vertical rays pass thru less air to reach the earth and have lost less of their heat to the atmosphere.

Summer is warmer than winter, 2nd, because the days (hours of sunshine) are longer in summer than in winter.

The change of seasons is due to 1st, the revolution of the earth around the sun. 2nd, the inclination of the earth's axis, and 3rd, to the parallelism of the earth's axis. These three causes result in the vertical rays of the sun moving back and forth $23\frac{1}{2}^{\circ}$ North and South of the equator, carrying the greater heat first to the North and then to the South of the equator.

5. Plains are likely to be rather low level tracts of country with fertile soil and often plenty of rainfall. These conditions favor Agriculture. Plateaus are likely to be semi-arid, favoring grazing. If well watered the rivers may be swift, favoring manufacturing. If deeply dissected by erosion, mining may be the characteristic industry. Mountains are characterized by mining industries, as mineral wealth is likely to be exposed by erosion.

6. The South.—South Carolina, Georgia, Alabama, Mississippi, Louisiana, and Texas, constitutes the "Cotton Belt" producing three-fourths of the world's supply of cotton. Cotton requires a long season in which to mature, plenty of rainfall properly distributed and favorable soil conditions, all of which are found in this area.

The "Corn Belt" includes Western Ohio, Indiana, Illinois, Iowa, Northern Missouri, Eastern Kansas, and Eastern Nebraska. The geographic factors are sufficient rainfall, a growing season of not less than one hundred to one hundred twenty days, and the excellent glacial drift soil.

7. China:—(Chinese Republic)

Position: Eastern Asia, 20° to 50° N. Latitude and 75° to 135° E. Longitude.

Size: About 4,000,000 square miles, or 1 1-3 times as large as United States.

Population: About 400,000,000 or four times population of United States.

Surface: Delta plains at river mouths, vast plateaus and mountains inland.

Mineral Resources: Vast mineral wealth, largely undeveloped.

Products: Silk, Tea, Cotton, Rice and other raw materials of commerce are exported. Other products raised for home consumption.

Form of Government: Republican.

Recent Changes: Government changed from Empire to Republic. Trade with foreign nations, and even the cutting off of pigtails by many Chinese indicate the "awakening of China".

8. Water that has fallen as rain may 1st, sink into earth and become ground water. 2nd, Run off forming streams. 3rd, Evaporate. The conditions which determine which of the three things shall happen, are porosity of soil, slope of ground, amount and rate of rainfall, amount of water already in soil, dryness of the air, presence or absence of vegetation.

Dry, loose, level ground, the presence of vegetation and slow rainfall favor the sinking in of the water.

Wet, hard soil, steep slopes, the absence of vegetation, and a rapid abundant downpour, favor a large run off.

Very dry air favors rapid evaporation.

In most regions the formation of ground water is of the greatest advantage to Agriculture.

9. The countries which lead in the production of the following articles are:—

Coffee, Brazil.

Corn, United States.

Wool, Australia.

Diamonds, Kimberley, British S. Africa.

Cotton, United States.

The States which lead in the production of the following articles are:

Hogs, Iowa.

(From Year Book, Dept. Agr. 1913)

Wheat, Kansas.

Rice, Louisiana.

Oranges, California.

Cane Sugar, Louisiana.

10. The Wind belts crossed in sailing from New York to Cape Horn are:—1st, Prevailing Westerlies, from New York to about 35 degrees north latitude. 2nd, Horse Latitudes, from about 35 to 30 degrees north latitude. 3rd Northeast Trades, from about 30 to 5 degrees north latitude. 4th, Doldrums, from about 5 degrees north to 5 degrees south latitude. 5th, Southeast Trades, from 5 to 30 degrees south latitude. 6th, Horse Latitudes, from about 30 to 35 degrees south latitude. 7th, Prevailing Westerlies, from about 35 degrees south latitude to Cape Horn. The same wind belts will be crossed in the reverse order in going from Cape Horn to San Francisco.

Rain might be expected in the Doldrums, because of the ascending air currents, and in the Westerlies, because of the poleward movement of the air. Dry weather would be expected in the Horse Latitudes because of the descending air currents, and in the Trades because of the equatorward movement of the air.

11. Northern Germany is a region of plains and lowlands, hence Agriculture is the leading industry. Southern Germany is rough and mountainous, hence manufacturing and mining are the leading industries.

12. The Atmosphere is the air. Its constituents are Nitrogen, Oxygen, Carbon-dioxide, and Water Vapor. It often contains impurities as dust particles, and minute quantities of various gases.

The uses of the different constituents are:—Nitrogen gives mass to air, forming nearly 8-10 of the atmosphere. Dilutes the active element oxygen and forms compounds essential to both plant and animal life.

Oxygen is essential to all respiration, oxidation and decay.

Carbon dioxide is an essential plant food. It has a large effect in regulating the temperature of the earth's surface.

Water vapor is necessary for rainfall; upon which all life depends.

The dust particles diffuse the sunlight, and probably serve as a nucleus about which the water vapor condenses.

The atmosphere (winds) distributes the rainfall. When the temperature of the air is high, its vapor capacity is great. Cooling the air causes condensation and precipitation of the water vapor.

13. Two kinds of forests are:—

Tropical forests, due to high temperature and abundant rainfall.

Temperate forests, due to moderate rainfall and alternate warm and cold seasons.

Two kinds of grasslands are:—

Savannas, due to high temperature and alternate wet and dry seasons.

Steppes, due to semi arid conditions.

Two kinds of deserts are:

Hot or dry deserts, due to high temperature and slight rainfall.

Cold deserts, or Tundras, due to low temperature.

14. "Conservation of Natural Resources" means such use of natural resources, that the present generation may have all that they need without the robbing of future generations.

The resources which should be conserved are the forests, minerals, soils, waterpower, fish and game.

Forests may be conserved by 1st, cutting only "ripe" trees; 2nd, Care of young trees in felling; 3rd, Prohibiting grazing, especially of sheep and goats in young forests; 4th, Prevention of forest fires; 5th, Sometimes, reforestation by planting.

U. S. HISTORY.—Answers.

By A. F. Strome, Department of History,
Western Illinois State Normal School.

1. Virginia at first made marked progress in self government, but in 1624, she became a royal province, and self government in a measure declined. The governor of Virginia possessed large powers. He was appointed by the Crown, and was not dependent on the House of Burgesses for his salary. He had large powers of appointment, and could veto all acts of the legislature. The franchise was liberal, but in time ceased to be of much importance as county affairs came under the control of the county judges appointed by the governor, while the affairs of the parish were managed by the vestry composed of twelve men who held office for life and themselves filled all vacancies.

As a result of the transfer of her charter to the colony Massachusetts early attained a large measure of independence and succeeded in maintaining it during the greater part of the colonial period. The governor was elected by the general court and was dependent on it for his salary. His powers were therefore, greatly limited. The franchise was more restricted than in Virginia, but those who voted were thoroly representative of the colony's interest. Local government instead of declining was of increasing

importance, the town meeting becoming the most important feature of the colonial government.

Industrially the two colonies also differed widely. Owing to the favoring circumstances of soil and climate, Virginia early gave herself up to the production of tobacco and developed the plantation system. In Massachusetts on the other hand, the soil yielded only a scanty return, and the agriculture on a small scale was always an important industry, the people also early turned to fishing, ship-building, trading and manufacturing.

2. The conditions which seemed to favor the permanence of French dominion in America were the strength of the French government and the fostering care she gave her colonies, her military occupation of her territory, and her friendly relations with the Indians. The occupation, however, was bound to prove temporary because of the superior genius of the English as a colonizing nation, and to the fact that the French occupation was mainly a commercial and military one, while the English occupation meant the settlement and development of the resources of the country. In the course of time, superior resources were bound to turn the tide in favor of the English. That the French occupation was brought to an end as early as 1763 was largely due to the exigencies of the war in Europe.

3. The passage of the Stamp Act produced a storm of opposition in America. Massachusetts took the lead and sent out a call for a general congress to protest against the action of Parliament. This was followed by non-importation agreements. In the meantime the Liberal party in England temporarily got control of the government and the Stamp Act was repealed. The repeal however, carried with it the so-called Declaratory Act, asserting the full right of Parliament to tax the colonies. This was followed in 1767 by the Townshend Acts, and the storm broke out afresh. The colonies had opposed the Stamp Act on the ground that it was an internal and direct tax, and the Townshend Acts were therefore disguised as external taxes in regulation of trade. But the people realized that a tax was a tax, and denied all right of Parliament to tax them whatsoever. In response to the Act, the non-importation agreements were revived, and committees of Correspondence devised to keep the various colonies in touch. The objectionable Acts were finally repealed, but again, as in the case of the Stamp Act, effort was made to save the principle of taxation by Parliament by leaving a nominal three-penny tax on tea. This only served to anger the colonies and when English merchants attempted to land tea in Boston, the citizens boarded the vessels and threw the tea into the harbor. This and other acts of violence, however, brought about the passage of the so-called Retaliatory Acts, closing the ports of Boston and annulling the charter of Massachusetts, establishing instead, a military government under General Gage. The Retaliatory Acts in their turn stirred the colonies to more determined resistance, provisions were sent to the suffering people of Boston, and a call was issued for a Continental Congress. This congress met in 1774, and at once took measures providing for more effective resistance. It also addressed a petition to the king, but this was ignored, and the colonies made preparation for war. Massachusetts

organized her militia and collected stores. General Gage then attempted to destroy the stores collected at Concord, and thus brought on the first battle of the Revolution.

4. The period immediately following the war of 1812 was one of readjustment for the American people, and thousands who before the war had found plenty of employment along the seaboard now found it extremely difficult to win a livelihood. In the vast region between the Appalachians and the Mississippi however, was new opportunity, and soon a movement began which in the course of a few short years brought into the union a galaxy of new states. Three main routes opened the way to this new country, and soon three great streams of emigrants were making their way westward. One composed chiefly of New Englanders pushed along Lake Champlain and up the Mohawk Valley to the region of the Great Lakes and Northern Ohio; a second composed of both New Englanders and Middle State people made their way to the Ohio regions by way of Pittsburg, or the new national pike; while a third stream made up mostly of emigrants from the Southern States, followed the Old Wilderness Road to Kentucky and Tennessee, or farther on into Alabama or Southern Indiana and Illinois. The movement seems to have been at its height by 1817, but continued on almost unabated for some years.

The filling up of the West brought new problems to the forefront in national politics. Indeed, there is scarcely a political issue of the period, 1815 to 1840, which was not the expression of western influence. The internal improvement movement was an expression of the western demand for an outlet for its products. The tariff controversy was largely the result of the western demand for home markets. It was the need of the West for more money which brought on the Wild Cat Banking craze and its attendant problems, and finally it was the devotion of this region to free labor which finally turned the tide against slavery.

5. In 1818 the territory of Missouri applied for admission to the Union. Nothing was said in the petition in regard to slavery, but inasmuch as the people already held slaves it was understood that they intended to create a slave state. But by the time the Ohio river had come to be pretty definitely recognized as the boundary between the slave and free states, and since the greater part of Missouri lay north of this line, there was bound to be opposition to her admission as a slave state. Moreover, many at the north were opposed to any extension of slavery west of the Mississippi. Consequently when the petition came before the House of Representatives for debate, James Talmadge, of New York, proposed an amendment designed to exclude slavery from the state. The amendment passed the House but was blocked in the Senate where the slave holding interests had a majority. Neither side would yield, and the matter dragged on until 1820, when the territory of Maine applied for admission and another deadlock was brought about. The Southern senators refusing to permit Maine to come into the Union as a free state unless the Northern representatives would admit Missouri as a slave state. It was clear that a compromise was necessary, and it was finally agreed, after a bitter struggle that Missouri should come in as a slave state on condition that Maine be admitted as a free state, and that slavery

should be excluded from all the remainder of the Louisiana Purchase north of 36° 30".

6. Five of the chief weaknesses of the Articles of Confederation were:

- (a) The confederation was a mere league of sovereign states and not a real national union.
- (b) The machinery of government was inadequate. There was no well defined executive to enforce the laws, and no judiciary to interpret them, or to settle disputes between the states.
- (c) Congress had insufficient power; for example, it had no power to collect taxes or to regulate commerce.
- (d) The voting in Congress was by states, and the consent of nine states was necessary for the passage of any law.
- (e) Congress had no power to enforce its treaties with foreign nations.

The constitution remedied these defects by creating a real national government having direct authority over individuals, by providing three distinct departments of government, by conferring on Congress full power to levy and collect taxes and to regulate commerce with foreign nations and between states, by giving each senator and representative in Congress one vote and requiring only a majority for the passage of laws, and by making treaties a part of the law of the land enforceable by national authority.

7. During this period a variety of events tended to increase our standing among the nations of the world. First and foremost doubtless, was our great national growth. The establishment of the national credit during Washington's administration was another large factor. The punishment of the barbary states and the war with England also had a salutary effect in that they showed that the American people were not inclined tamely to submit to violations of their rights. The achievements of the navy during the War of 1812 were especially efficacious in impressing upon European nations this lesson.

8. In 1836, Texas, which had come under control of emigrants from the United States, rebelled against Mexico and gained her independence. Later, Texas applied for admission to the Union. In 1844, the Secretary of State, John C. Calhoun, negotiated a Treaty of Annexation with Texas, but the Senate refused to ratify it. The friends of slavery, however, were determined to annex Texas. The democratic party made the annexation of Texas an issue in the campaign of 1844, and on their triumph in the election, Congress at once admitted Texas by a joint resolution, it being impossible to secure the necessary two-third vote to ratify a treaty in the Senate.

The annexation of Texas became the direct cause of the War with Mexico. Texas claimed the Rio Grande as her western boundary while Mexico claimed that Texas' west boundary was the Neches river. When Texas was admitted to the Union, her claim became the claim of the United States. President Polk ordered General Taylor to take possession of the disputed territory and this was followed by war.

9. The Kansas-Nebraska Act, as finally passed in 1853, provided for the repeal of the Missouri Compromise, and the organiza-

tion of the two territories of Kansas and Nebraska, under the principle of Popular Sovereignty that is the right of the territories to determine for themselves whether they should or should not have slaves.

The Act was not a compromise, tho the friends of slavery maintained that it was merely an extension of the idea of the Compromise of 1850. All parties had professed to regard the Compromise of 1850 as a settlement of the slavery trouble but the repeal of the Missouri Compromise re-opened the entire question. The North regarded the Act of 1820 as a solemn agreement, and its violation by the friends of slavery started a new agitation in opposition to the extension of slavery, which ended only with the Civil War.

10. The fundamental cause of the Civil War was the geographic differences between the North and South. These gave rise to distinct social and industrial institutions, which, in the course of their development brought the two sections into conflict. The main points at issue were the tariff and slavery. After 1832, the tariff controversy quieted down, but about the same time the South came to a realization of the fact that slavery must expand in order to perpetuate itself, and a movement was begun for the extension of slave territory. This was resisted by the North, which had gradually developed an antagonism to the whole institution of slavery, and the struggle thus started finally culminated in the Civil War. The immediate cause of the Civil War was the secession of the Southern States.

11. As Commander in Chief of the Army and Navy, the President has extensive powers in time of war which he does not possess in time of peace. The Emancipation Proclamation was issued under the authority of these so-called war powers, its ostensible object being to cripple the enemy. As a war measure it applied only to the territory in rebellion, and would cease to be effective as soon as the war was over. In order to make the abolition of slavery general and permanent, it was necessary to make it a part of the constitution, neither Congress nor the President having that power.

12. Five of the most noteworthy achievements of the Roosevelt administration were:

- a. The rousing of the nation to a consciousness of the need of action in restraint of "Big Business."
- b. The formulation of a definite policy for conserving our natural resources.
- c. The beginning of the Panama Canal.
- d. The passage of the Pure Food and Drug Act..
- e. The revival of the Inter-State Commerce Commission.

13. Cuba had long been a subject of great interest to the United States. Not only had the mis-government, which the people suffered at the hands of Spain, stirred the sympathies of the American people, but American citizens had large financial interests on the Island and the government could not regard with indifference the political conditions there. In 1895, a severe insurrection broke out during which millions of dollars worth of American property was destroyed and many American citizens were thrown into Spanish prisons. Moreover, the Cuban people were treated with inhuman cruelty

by the Spanish General Weyler. The American people were thoroly aroused and the government was compelled to take cognizance of the situation. President McKinley labored hard to get Spain to grant the Cubans some degree of self government, but without success. Meanwhile, both Houses of Congress passed resolutions urging the recognition of Cuban independence. As time went on, public opinion became more and more incensed against Spain, until finally, when the battleship Maine was blown up, in Havana Harbor the people were aroused to such a degree of indignation that the administration was compelled to take decisive action. After a last appeal to the Spanish government, which met with an evasive reply, President McKinley turned the matter over to Congress. Congress then passed a resolution recognizing the independence of Cuba and demanding the withdrawal of Spain from the Island. It also authorized the President to use the military and naval forces of the United States to carry these resolutions into effect. The passage of these resolutions was a virtual declaration of war against Spain and was soon followed by actual hostilities.

14. The thirteen original colonies in order of the approximate dates of their first settlements are: Virginia 1607, New York 1613, Massachusetts 1620, New Hampshire 1623, Delaware 1627, New Jersey 1627, Connecticut 1633, Maryland 1634, Rhode Island 1636, North Carolina 1650, South Carolina 1670, Pennsylvania 1682, and Georgia 1733.

Virginia, the first colony established was settled at Jamestown in 1607.

Looked at from the point of view of ideals and their influence on the American nation, Massachusetts was doubtless the best of the American colonies. The first settlement was at Plymouth in 1620.

ILLINOIS HISTORY.—Answers

By Elbert Waller, Superintendent of Schools,
Albion, Ill., and author of Waller's History of Illinois

1. Abraham Lincoln and Richard Yates, Sr., both won distinction in a political way. To these we would add Ulysses S. Grant, John A. Logan, Richard J. Oglesby, John M. Palmer, and John A. McClelland.

2. In the early days, the rivers were very important means of travel and transportation and even yet, they and Lake Michigan are important. The climate is such that nearly everything produced in the Temperate Zone can be produced with profit in Illinois. A larger percent of Illinois' soil is under cultivation than is the soil of any other state. In most of the State the soil is extremely fertile. In the hilly portion of the State where the production of cereals is not so profitable, every variety of temperate climate fruit thrives. About two-thirds of the State is underlaid by beds of coal of an excellent quality. Plenty of limestone is found in a majority of the counties. Clay and shale suitable for brick-making is found in large quantities and lead and zinc are also

found. The fact that the state is conveniently located as regards raw material and markets for out-put has greatly encouraged various industries in the state.

3. The Enabling Act was passed by Congress on April 18th, 1818. This defined the present boundary and changed the required population from 60,000 to 40,000 people. A census was taken showing 40,000, tho in reality there were only a little over 35,000. A constitution was agreed to in a convention called for that purpose but was never voted on by the people. An election was held for Governor, Lieutenant Governor, one Representative in Congress, and members of the General Assembly. The General Assembly met and elected two U. S. Senators and as the final act, Congress approved the Constitution December 3d, 1818, and President Monroe signed the bill the next day. The birthday of Illinois is December 4th instead of December 3d as generally supposed.

4. Black Hawk was a Sac chief, living near Rock Island. He was cheated out of his lands and his village was burned in 1831. He fled from the state but the following spring he came near his old home going to the Winnebagoes. The people became alarmed and called for help. Gov. Reynolds led, in person, 1800 troops. The President of the United States sent others and after a series of blunders on the part of the white people they finally compelled him to flee. He took refuge with the Winnebagoes who gave him up to the United States authorities August 27th, 1832 and the war was over. It had cost the United States a million dollars and had taken 7,000 troops to put 400 indian braves with their starving families off the land of which they had been defrauded.

5. It was customary in the early days of Illinois to have "Muster Days" at which time the people all gathered together and the men engaged in military drill. After the officers had "bawled themselves hoarse" they would have a barbecue and "Sleights of art and feats of strength went round." They finally degenerated into drunken brawls and President Jackson recommended that they be discontinued.

It was customary to have the girls and their mothers seated on one side of the church house and the boys and their fathers on the other. The preacher did not work for a salary but was generally well provided for by his congregation. Often he was simply a laborer among them, who preached for the good of the cause. The church building was not an imposing edifice, but a modest structure. Then the finances of the churches were never embarrassed.

6. As the name might imply, the "Black Code" was for the government of the negro. It provided: That a negro could not bring suit nor testify in court; that if he were found ten miles from home he could be taken before a justice and whipped twenty-five lashes; that unless he had a certificate of freedom, his time for one year could be sold by the sheriff; that he might be sold on execution or mortgaged for his master's debts and that no person could bring a slave to the state for the purpose of freeing him without giving a bond of \$1000 guaranteeing that such slave would be a law-abiding and self-supporting citizen.

7. The writers of the Constitution of 1818 tried to compel the recognition of slavery in Illinois by inserting the expression, "Nei-

ther slavery nor involuntary servitude shall hereafter be introduced". In 1822, the advocates of slavery tried to get the constitution so amended as to legalize slavery, claiming to no longer be bound by the Ordinance of 1787. The General Assembly in 1823, after unseating one member who opposed the amendment, had a bare majority in favor of the amendment. The proposition was accordingly submitted to a vote of the people. It was bitterly contested in the election August 2d, 1824 and was defeated by 1668 votes.

8. The call on Illinois was for 3,000 troops but it was responded to by 6,000. They were led by General James Shields, and they engaged in the battles of Palo Alto, Resaca de la Palma, Monterey, Saltillo, Victoria, Tampico, and Buena Vista, and were successful in every battle. A few of them were under General Scott on the campaign from Vera Cruz to the City of Mexico.

9. In 1858, Lincoln and Douglas were both candidates for the U. S. Senate. Lincoln challenged Douglas to a debate on national issues. Finally they agreed on seven places where they would debate. They were as follows: Ottawa, Freeport, Jonesboro, Charleston, Galesburg, Quincy and Alton. Douglas was popular and Lincoln not very well known. Douglas went with a great deal of pomp, while Lincoln was the opposite. It is generally conceded that Lincoln was victorious for the state went republican tho the democrats held a majority of the General Assembly. They gave each other several questions. The second Lincoln gave to Douglas was against the advice of his friends but Lincoln was far-sighted and asked the question. It drove Douglas to a position that it is believed cost him the presidency two years later.

10. Richard Yates, Sr., was the "War Governor" of Illinois. He was so-called because he took such a decided stand in favor of the Union even to the point of doing all in his power to organize and equip the soldiers in Illinois.

11. Illinois has had three constitutions, the first in 1818, the second, 1848, the third, 1870. I would consider that a leading feature of the first was the various provisions concerning the negro, one of the second was a provision prohibiting the state from in any way becoming involved with the banks, one of the third was a provision concerning Minority representation.

12. Starved Rock was the scene of the starving out of the last of the Illini Federation in the Illinois Valley. Galena was the scene of the so-called Winnebago War. Old Salem was the home of Lincoln. Nauvoo was the scene of the Mormon trouble. Shawneetown was the home of a tribe of Indians of that name. It was also one of the earliest settlements in the State and the location of one of the ill-fated State banks. Vandalia was the location of the second capital of Illinois. Alton was the scene of the Lovejoy murder. Freeport is the place where Douglas answered Lincoln's question concerning "Squatter Sovereignty", the answer being known as the "Freeport Doctrine."

13. Shadrach Bond. In his administration the famous "Black Code" was enacted. Edward Coles. In his administration the fight to amend the Constitution so as to legalize slavery was waged. Joseph Duncan. In his administration the murder of Elijah P. Love-

joy occurred. Richard Yates, Sr. In his administration Illinois furnished 259,000 troops for the Civil War. Richard J. Oglesby. In his administration the Thirteenth Amendment was approved.

14. In 1832, the idea of a railroad from one end of the State to the other was talked of by Alexander M. Jenkins of Jackson County, and in 1836, the Illinois Central Railroad Company was incorporated, but nothing except a road from Meredosia to Springfield was the direct result.

In 1850, the U. S. Government gave to the State nearly three million acres of land to be used as the State saw best in building a railroad from Cairo to LaSalle. A new Illinois Central Railroad Company was organized in 1851. By a provision of their charter they were given the land that the State had received from Congress for that purpose. The Company was to pay no tax on the chartered line nor on the land so long as they owned it but in lieu thereof they were to pay 5 percent of the gross earnings of the road for the first two years; then a provision of the charter was so worded that they were to pay at least 7 percent of the gross earnings to the State. The road was completed in 1856. It has been a great factor in the development of the State and has paid into the State Treasury more than \$30,000,000.

Section Two

READING—Questions.

1. State the main object to be kept in view in teaching (a) primary reading; (b) advanced reading.

2. Discuss supplementary reading as to (a) purpose; (b) material.

3. Name two methods commonly employed in teaching beginners to read, and state the special advantage of each.

4. (a) State two errors in methods of teaching reading which lead to monotonous reading by the pupil. (b) State two ways by which this fault of the pupil may be corrected.

5. "Every clod feels a stir of might,
An instinct within it that reaches and towers,
And groping blindly above it for light,
Climbs to a soul in grass and flowers."

(a) From what is the extract taken? (b) By paraphrasing, explain its meaning.

6. Name the author of each of the following: Miles Standish; The Legend of Sleepy Hollow; Macbeth; Lady of the Lake; Robinson Crusoe; Snowbound; The Great Stone Face; The Chambered Nautilus; Apostrophe to the Ocean; The Psalm of Life; Thanatopsis.

7. The general method of teaching a poem embraces the following: I Preparation; II The Whole; III The Parts; IV The New Whole. (a) Comment on this arrangement. (b) What would you include in the preparation? (c) Why should a study of the whole precede the study of the parts? (d) Why at the close should we study the poem as a new whole?

Daisies—Second Grade.

"At evening when I go to bed,
I see the stars shine overhead;
They are the little daisies white
That dot the meadows of the night.

And often, while I'm dreaming so,
Across the sky the moon will go;
It is a lady, sweet and fair,
Who comes to gather daisies there.

For when at morning I arise
There's not a star left in the skies;
She's picked them all, and dropped them down
Into the meadows of the town."

8. (a) What preparatory discussion should the teacher make before taking up the poem? (b) How would you present the whole poem?

9. (a) What analysis would you make of the parts of the above poem "Daisies"? (b) How would you proceed to present the poem as "a new whole"? (c) Suppose you desire the class to memorize the poem—what part will you take in the work?

10. Upon what essential facts are the ease and success in teaching reading dependent?

11. Some teachers, in rural schools, devote a portion of the ten or fifteen minute period for reading to (a) reading; (b) to the telling of the story of the lesson by the pupils; (c) to the spelling of the difficult words of the lesson. Comment on this procedure.

Abraham Lincoln.

"This man whose homely face you look upon,
Was one of Nature's masterful great men;
Born with strong arms that unfought victories won.
Direct of speech, and cunning with the pen,
Chosen for large designs, he had the art
Of winning with his humor, and he went
Straight to his mark, which was the human heart.
Wise, too, for what he could not break, he bent;
Upon his back, a more than Atlas load,
The burden of the Commonwealth was laid;
He stooped and rose up with it, tho' the road
Shot suddenly downwards, not a whit dismayed.
Hold, warriors, councilors, kings! All now give place
To this dead Benefactor of the Race."

12. (a) What would you state as the pupil's aim in studying this selection?
(b) What would you state as the teacher's aim in teaching it?
(c) What would you tell the class the poet has attempted here?
13. (a) Name the qualities, as given by the poet, that made Lincoln "one of Nature's masterful great men."
(b) Suppose you wished to illustrate Lincoln's "cunning with the pen," what selection would you read to the class?
14. (a) For what "large designs" was Lincoln chosen?
(b) What was the "more than Atlas load" that Lincoln bore?

ARITHMETIC—Questions.

1. A bin is 10 feet square and 8 feet deep. If it is $\frac{3}{4}$ filled, how many bushels of oats does it contain?

2. An army lost in one battle $\frac{2}{17}$ of its men and in another $\frac{2}{5}$ of the remainder, after which there were 8100 men left. How many men were in the original army?

3. Divide $\frac{3}{4}$ by $\frac{5}{7}$ in two ways. Explain each. Which should be taught first? Why?

4. The tax to be raised in a certain district is \$1250. The rate is $2\frac{1}{2}\%$. If the property is assessed at $\frac{1}{3}$ of its real value, what is the real value?

5. (a) 36% of John's money is \$60 more than 24% of it. How much money has he?

(b) .05 is what per cent of .25?

(c) .8% of 6.75 equals what?

(d) 250 is 200% of what number?

(e) Write with per cent mark: .035, 28.5, $\frac{3}{4}$, $7\frac{1}{2}$, .40.

6. A boy climbs a flag pole to the height of 40 feet. Another boy is standing on the ground 120 feet from the foot of the flag pole. If the second boy is 165 feet from a ball on the top of the pole, how far is the first boy from the ball? Draw a diagram.

7. A foundation wall is 45 by 120 feet outside measurement, 18 inches thick and 8 feet deep. Find number of cubic yards of masonry in the wall.

8. A house is insured for $\frac{3}{4}$ of its value; if the premium is \$24 and the rate is $\frac{3}{8}\%$, what is the value of the house?

9. A ship is $58^{\circ} 48' 20''$ west longitude and receives at noon a wireless message from one $43^{\circ} 2' 5''$ west longitude. When was it sent?

10. Show by a diagram N. $\frac{1}{2}$ of S. $\frac{1}{2}$ of E. $\frac{1}{2}$ of S. E. $\frac{1}{4}$ of a section of land. How many acres of land in it and how many rods of fence will be required to fence it?

11. How many gallons of oil in a cylindrical tank 6 feet in diameter and 20 feet high? How many square yards of sheet iron does it require to make it, and what is the weight of the oil if its specific gravity is .8?

12. State the effect of prefixing and annexing ciphers to a decimal and explain as you would to a class.

13. A dry-goods dealer sold a piece of cloth, and gained $12\frac{1}{2}\%$. If he had sold it at 90 cents a yard, he would have gained 25%. What was the selling price?

14. As agent, I sold some wheat for \$4896 on a commission of 4%. I invested the net proceeds in dry goods, after deducting my commission of 2% for buying. What was my entire commission?

CIVICS.—Questions.

1. By diagrams, show the United States land survey system. Explain the diagrams.

2. How may the constitution of the United States be amended? Name three restrictions imposed upon the states by the constitution.

3. Distinguish between the following forms of government: absolute monarchy, limited monarchy, pure democracy, republic. Give example of each.

4. Name the officers of a school township. Give length of term and state the duties of the officers.
 5. Define bribery, perjury, civil suit, tenure of office, writ of habeas corpus.
 6. Explain fully what is meant by congressional district. By senatorial district. By congressman at large.
 7. What do you consider to be some of the aims in teaching civics?
 8. Name the three departments of government and give the function of each.
 9. Give qualifications, term of office, and manner of electing a congressman; a senator. How many of each may a state have?
 10. Name the town offices and give the chief function of each.
 11. How may a senator be removed from office? How a representative? How a supreme judge? How a vice president?
 12. Show the steps thru which a bill must pass from its introduction in our legislature until it becomes a law.
 13. Name the courts that constitute the judicial department of the government of the United States; of the government of Illinois.
 14. What bill must originate in the house of representatives, and why?
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STATE COURSE OF STUDY.—Questions.

For Third Grade Certificate answer any eight of the first ten questions; for Second Grade Certificate, any eight of 3 to 12, inclusive.

1. Discuss the advantages and disadvantages of a plan of alteration of studies.
2. How many classes in reading should there be in a country school? Explain the plan suggested in the State Course for combining the classes in reading.
3. Explain the useful purposes served by an examination system as given in the State Course.
4. What suggestions for teaching the story and the poem to first year pupils is given in the State Course? Why should stories be dramatized? Explain the method to be followed in dramatization.
5. What useful objective material can be used in presenting second year number?
6. What are the principal causes why some children read in a hesitating manner? How may the reading of such children be made better?
7. Discuss the value of constructive work in the primary grades. What important basic principles are involved?
8. What are the important topics to be studied in fourth year geography?

9. What kind of work in household arts is suggested in the State Course? What is the purpose of such a course? What plan is suggested for doing this work in country schools?

11. What things about a picture should be discussed with pupils in the seventh year? Discuss these things with regard to any picture to be studied in the seventh year.

12. Discuss boys' and girls' clubs as adjuncts of the school. Discuss the general plan of organization and management of these clubs.

ORTHOGRAPHY.—Questions.

For Third Grade Certificate answer any four of questions 1 to 5, inclusive; for Second Grade, any four of questions 2 to 6;

for First Grade, any four of questions 3 to 7. A

list of twenty-five words will be pronounced,
which will count as four questions.

1. Define and give examples: homonym, suffix, trisyllable, diphthong, derivative-word.

2. Give words to illustrate four sounds each of a, e, i, o, u.

3. Define and give a word containing each of the following: post, inter, poly, mono, cede, dict, flect, polis, rupt, anti.

4. Syllabicate, accent, and give diacritical marks: acorn, arctic, fatigue, tortoise, pedagogy, bronchitis, routine, suicide, recall, bureau.

5. Write at least two synonyms for each of the following: scent, unite, scorn, soothe, scene.

6. Use in sentences so as to show the meaning: coral, choral, capitol, capital, quay, isle, caret, carat, statue, statute.

7. Analyze the following: biped, subscription, secede, autograph, circumscribe, liberate, contradict, paternal, manufacture, transmission.

PEDAGOGY.—Questions.

For Second Grade Certificate use questions 1 to 8, inclusive; for First Grade, High School and Special Certificates, use questions 1 to 10, inclusive.

1. Name five general aims in public school education.

2. Show the importance of "starting right" in the management of a school or a class. Explain what you mean by "starting right."

3. Illustrate from your own observation or experience how "sympathy for childhood" may work harm if not controlled by the right kind of persistence.

4. Discuss in one hundred words this subject: Preparing beforehand for the "first day of school."

5. How would you go about making a daily program? Make your statement apply specifically to the kind of school in which you have taught or expect to teach.

6. Discuss the hygiene of eyesight in the school-room, with reference to these matters: Distance of reading matter from the eye; direction of light; ink, pencils and paper.

7. Speak of several elements that are important in securing order in the school.

8. Present brief arguments for and against corporal punishment.

9. Show what is wrong with the method of conducting recitations illustrated here, and indicate a better method:

Who discovered America?

When?

Of what country was he a native?

What difficulty did he have with his sailors?

10. Discuss the civic duties of a teacher, using about 120 words.

ELEMENTARY SCIENCE.—Questions.

For Second Grade Certificate Only. Answer any eight questions.

1. How may mosquitoes spread disease?

2. Explain carefully how a Ben Davis apple tree may be made to produce Jonathan and Minkler apples.

3. Should the crow and the screech owl be killed? Why?

4. When should seed corn be gathered and how should it be cared for during the winter?

5. How may new onion seeds be produced from seeds planted in the spring of the year?

6. Is the ground mole carnivorous? Why? Describe a mole's front foot.

7. What plants are practical for a school garden?

8. What causes a west wind? Define barometer.

9. Give some of the chief differences between black soil and yellow clay soil.

10. Give some similarities between alfalfa and red clover.

PHYSIOLOGY.—Questions.

1. What is meant by food adulteration ? Give examples of this.
 2. Locate and give use of the spleen. Give the evil effects of mouth breathing. Describe and give use of the cilia.
 3. What important fluid in the mouth aids digestion? Name and locate the glands from which this fluid comes. Describe this fluid's action.
 4. Describe the circulatory system and trace a particle of blood from a starting point, showing the changes it undergoes in its journey.
 5. What are the two great divisions of the nervous system ? Name and describe two kinds of nervous tissue.
 6. What effects do you think the use of intoxicating drinks have on character ? What effects on the vital organs ?
 7. Define oxidation and its products.
 8. Name the divisions of the digestive tract. Show changes food undergoes in each division of the tract as it makes its transit.
 9. Give function of the following glands, and locate the glands: Liver, kidneys, perspiratory, sebaceous, lachrymal, parotid, sublingual, submaxillary, spleen.
 10. Write briefly concerning the best methods of ventilating a school-room.
 11. Discuss the human skeleton as to structure and composition of the bones, also their general and particular uses.
 12. Tell of the spinal cord as to color, length and diameter, covering, structure, function.
 13. Tell how we see, and in doing so, name all the different parts of the eye.
 14. Give five essential hygienic laws of health.
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PENMANSHIP.—Questions.

For Third Grade Certificate answer any four of questions 1 to 5, inclusive; for Second Grade, any four of questions 2 to 6; for First Grade, any four of questions 3 to 7.

Penmanship of applicant on this paper will count fifty per cent.

1. Make a line across your paper of the push and pull exercise. Make a line across your paper of the indirect oval exercise.
2. Make in proper form, grouped as you would teach them, all of the small letters. What is the proper height of one space letters?
3. Write a correct form of a bank draft. Draw a rectangle 3 by

5 inches to represent the back of your draft. In this rectangle, write endorsement in full, making the draft payable to E. F. Dunne. Below this write E. F. Dunne's endorsement in blank when he transfers the draft to some one else.

4. What exercises do you use to develop the muscles used in writing? What exercises do you use to teach uniform motion? What value do you attach to such exercises?

5. To what extent should the teacher supervise the writing done outside the regular writing period? Give reasons for your answer. Explain your plan for doing this.

6. Our State Course says that "Correct position, movement and **rhythm** should be established in the first and second grades." Explain what you understand by these terms. What means do you use in these grades to establish "correct position, movement and rhythm"?

7. What devices do you use to stimulate a desire on the part of a pupil to improve his writing?

GRAMMAR.—Questions.

1. Define and illustrate these terms: expletive, appositive, gerund, auxiliary verb, collective noun.

2. Define inflection. What parts of speech are inflected, and how?

3. Use "what" in a sentence as a relative pronoun, as an adjective, as an adverb, as an interrogative pronoun, and as an interjection.

4. Point out and give construction of each dependent clause in the following:

- (a) Whither thou goest I will go.
- (b) This is the story that we read.
- (c) The **ground** is **wet** because it has **rained**.
- (d) It was **so** cold that the mercury froze.
- (e) **This** we know, that our future depends on our present.

5. Parse the words in black face in the preceding sentences.

6. Fill blanks in the following sentences and give reasons:

- (a) She invited Kate and..... (me or I.)
- (b)did you speak to? (who or whom.)
- (c) She hasfrom a distant city. (come or came.)
- (d) It must have been.....that I met. (he or him.)
- (e) He speaks the language..... (plain or plainly.)
- (f)did you call? (who or whom.)
- (g) The color of the roses.....red. (is or are.)
- (h) He has.....the book on the table. (laid or lain.)
- (i) Each of the boys.....an apple. (has or have.)
- (j) Did you give Mary, or....., the message? (I or me.)

7. Name and illustrate ten uses or constructions of nouns.

8. What is the difference between a relative and a personal pronoun? How does a clause differ from a phrase?

9. Use a noun clause as the subject of a sentence, object complement, attribute complement. Give a sentence with an adjective clause connected by "where." What part of speech is "where"?

10. Tell part of speech and use of the words in blackface in the following:

There came a **youth** upon the earth
 Some thousand **years** ago,
 Whose slender hands were little worth
 Whether to plow, or reap or sow.
 Then King Admetus, **who** had
 Pure **taste** by **right** divine,
Decreed his singing not too bad
 To hear **between** the cups of wine.
 And so **well pleased** with **being** soothed
 Into a sweet half sleep,
 Three times his kingly **beard** he smoothed
And made **him** viceroy o'er his sheep.

11. Write sentences showing four uses of an infinitive.
12. Use in sentences the following verb phrases:
 3rd person, plural number, present perfect tense, indicative mode, passive voice.
 2nd person, singular number, present tense, imperative mode, active voice.
 1st person, plural number, past tense, subjunctive mode, active voice.
 2nd person, plural number, past perfect tense, potential mode, passive voice.
 3rd person, singular number, future tense, indicative mode, active voice.
13. Distinguish between gender and sex. Illustrate three ways in which gender is shown.
14. Analyze or diagram:
 One summer morning, when the sun was hot,
 Weary with his labor in his garden plot,
 On a rude bench beneath the eaves,
 Sir Frederigo sat among the leaves
 Of a huge vine.

GEOGRAPHY.—Questions.

1. Why is the making and reading of maps of importance? Explain the use of the scale in map making.
2. What were the geographic reasons for the building of a great city at Chicago?
3. Name two important river systems of each continent and tell into what each system flows.
4. Sketch a map of the United States and indicate the regions of heavy, medium and scant rainfall.
5. Give the causes of the trade winds and their directions.
6. What is the basis of location on the earth's surface? Explain. State the purpose of latitude and longitude, and tell from where and how each is measured.
7. East of the Andes, account for the heavy rainfall in northern South America and the scant rainfall in the southern part.
8. In what ways and why has Argentina come into competition with the United States?

9. Give clear explanations of (a) the periodic rise and fall of the Nile; (b) the rainy and dry seasons of India.

10. Account for (a) the Sahara; (b) the Kalahari Desert in southern Africa.

11. Give approximate latitude of the British Isles, describe the climate, and compare with that part of America opposite them, giving reasons for the difference.

12. Give approximate or comparative areas of (a) Germany; (b) France. Give the boundaries of each. Name the principal rivers, and the chief products of each.

13. Why are summer days here longer than winter ones? What would be the width of each zone if the inclination of the earth's axis were 30 degrees?

14. Name the chief world regions of wheat production; of cotton; of manufacturing. What makes commerce necessary? Name the chief commercial nations.

UNITED STATES HISTORY.—Questions.

1. State the chief object sought in the exploration, discovery, or settlement made by each of the following: Oglethorpe, Cortez, Ponce De Leon, Balboa, Pilgrims.

2. Give the date and place of the earliest settlement in the United States: by the English; by the Spanish; by the Dutch; by the French.

3. Mention one important event connected with the settlement of Virginia; of Massachusetts; of Maryland; of New York; of Georgia.

4. State fully the physical conditions of a country which are necessary to develop a high degree of civilization.

5. Give the territorial expansion of the United States in chronological order.

6. What causes led to the secession of the Southern States, and who were the leading men in the movement?

7. Give the terms of the compromise of 1850. Which of these terms, if any, were later violated?

8. Contrast early conditions in Massachusetts and Virginia in regard to (a) suffrage, (b) education, (c) social life.

9. What was the principal public service rendered by each of these men: Alexander Hamilton, Benjamin Franklin, Patrick Henry, Thomas Jefferson, Eli Whitney?

10. What caused the war of 1812, and during whose presidential administration did it occur? The Spanish-American war?

11. What are some of the principal reasons for teaching history? How should history be taught in intermediate grades?

12. What two theories of the function and powers of the National Government have been held since the time of Hamilton and Jefferson?

13. Discuss briefly the social, religious, and political conditions in Europe just prior to the discovery of America.

14. Give an account of the Constitutional Convention at Philadelphia, showing particularly the conflicting interests it represented, and the three great compromises brought about.

ILLINOIS HISTORY.—Questions.

1. Describe the prehistoric conditions of Illinois. State briefly its mineral resources and the consequent results of the same.

2. What importance attached to the establishment of the northern boundary of Illinois ?

3. What different European nations have owned the territory now comprising Illinois ? Who first explored the state ?

4. When does the Illinois General Assembly meet ? State number of members in each house.

5. Name and locate the different capitals Illinois has had.

6. What historical importance attaches to Ft. Dearborn, Vandalia, Nauvoo ?

7. What was the Ordinance of 1787 ? How did the provisions of this ordinance affect Illinois ?

8. Tell the story of George Rogers Clark and his capture by Kaskaskia.

9. Make a good historical statement about each of the following: Joliet, Marquette, LaSalle, Tonti, Creve Coeur.

10. Give the legal boundaries of Illinois, its length, its width and area.

11. State, in your judgment, the principal causes that have operated to make Illinois one of the wealthiest and most prominent states in the Union.

12. What Illinois men distinguished themselves (a) as statesmen, (b) as presidents of the United States, (c) as generals ?

13. Write a short sketch of the development of Chicago. Where are our state penitentiaries located ?

14. From what sections of the United States did the early Illinois settlers come ? By what two principal routes ? What were their views on slavery ?

Answers to Section Two

READING—Answers.

By H. T. White, Superintendent of Schools, Carlinville, Ill.

1. (a) The main object to be kept in view in teaching primary reading is to teach children to interpret the printed and written characters. As far as English words permit, we must teach children the sound values of the characters which constitute the printed word, i. e., we must teach them the phonics of English words. In addition to teaching words as isolated units and the sound values of letters we must teach pupils to interpret phrases and simple sentences. The greater emphasis is placed upon the mechanics of reading, but content must not be ignored.

(b) The main object to be kept in view in teaching advanced reading is to enable children to use printed matter intelligently in life's affairs. The study of the world's masterpieces in literature should occupy a conspicuous place in the formal teaching of reading so that people will know not only how to read but what things are most worthy of reading.

2. (a) Children need supplementary reading because, from the teacher's view point it gives them the desired new combinations of old forms (words) thereby strengthening them in the mechanical processes of reading and in interpretation. On the other hand, the pupils want supplementary reading for the sake of something new, different from the lessons in the basal text.

(b) The supplementary material used in reading in any grade should be somewhat easier than the material in the basal text, so that pupils will not have to study it much. They should be permitted to enjoy it, hence it should be easy for them to read.

3. (a) The word method is used by every teacher of beginners. It enables pupils to learn a comparatively large number of words the first few weeks of school, thus giving them a working vocabulary. Children learn words as units very quickly.

(b) The phonic method requires much more time and more skill on the part of the teacher and yet it is necessary. It should be used to accompany the word method but usually in separate lessons. The special advantage of the phonic method is that after a child knows the sound values of the letters he can make spoken words from the printed or written characters.

4. (a) Some teachers allow pupils to try to read a sentence before they know every word in the sentence. This encourages monotonous word calling instead of thought getting and thought giving. Then, too, some pupils, even after they know how to pronounce all the words in a sentence, are allowed to pronounce them in a drawing manner as if each word were isolated.

(b) The first remedy for this is to see that the pupil knows every word in the sentence he is going to read; the second is to have him speak the words in the same way he would if he were not looking at them in print. In the first two grades at least it is well to have pupils look away from the printed sentence while they are saying it. This has a tendency to promote naturalness of oral expression.

5. (a) This extract is taken from Lowell's "Vision of Sir Launfal."

(b) "Every clod is filled with life and strength, and finds an expression of its vitality in the grass and flowers."

6. The author of *Miles Standish* was Longfellow; of the *Legend of Sleepy Hollow*, Washington Irving; *Macbeth*, Shakespeare; *Lady of the Lake*, Scott; *Robinson Crusoe*, Defoe; *Snowbound*, Whittier; *The Great Stone Face*, Hawthorne; *The Chambered Nautilus*, Holmes; *Apostrophe to the Ocean*, Lord Byron (*Childe Harold*, Canto 4); *Psalm of Life*, Longfellow; *Thanatopsis*, Bryant.

7. (a) The general method of teaching a poem embraces: 1 Preparation; 2, The Study of the Poem as a Whole; 3, The Parts; 4, The New Whole. This is a good arrangement. Surely we should make our preparation first, if we make it at all, and any one can see the need of preparation. It is then well to read the whole poem as a unit to get a general notion of the author's purpose in writing it. We should then see the units within the poem, such as pictures, apostrophes, outbursts of joy and love and admiration and the like. Then we should re-read the poem as a whole to get as complete an appreciation of it as we can and thereby to enjoy it still more.

(b) In the preparation for reading a poem each pupil should learn the pronunciation and the meaning of every word as it is used in the given poem, the significance of each figure of speech and each allusion. Every pupil should get the poet's motive, his feeling; for example, if the poem is a burst of exultation, the child should as far as possible have the same feeling.

(c) It is better to study the poem as a whole before we study its parts as units because by the whole plan we do not break the continuity of thought and the exact word combinations between successive stanzas.

(d) After we have studied each part as a separate unit we should study the poem as a new whole to get a complete view, to see the parts in their proper setting and thus to enjoy the poet's feeling more fully.

8. (a) What have we studied that Robert Louis Stevenson wrote? Recite one or more of his poems. What do you remember about Mr. Stevenson? If the pupils have not learned anything from Stevenson I would read them one or two of his other short selections and tell them some of the things about him that would be most interesting to them.

(b) To a second grade class I would present the whole poem first by reading it aloud to the class several times.

9. (a) Why was Mr. Stevenson more likely to see the stars at bed time than at any other time? When he sees the stars they remind him of what? What does he mean by saying that the stars are daisies? What are "the meadows of the night"? Which way does the moon go across the sky? What does he mean when he says that the moon is a lady? What makes him think that the lady has picked all of the daisies while he was asleep? Where does he find the stars when he goes out of doors in the morning? What did the stars become as soon as they fell to "the meadows of the town"? What are "the meadows of the town"?

(b) Each pupil facing the class should read the whole poem aloud to the class.

(c) I would have the children say the poem in concert with me two or three times a day until they had all learned it.

10. "Essentials of First Lessons."

"The first lessons in reading should make sure of a few vital things. The following points are of especial importance:

(a) The child should associate the written symbol directly with the thing symbolized. The method used involves the sentence method. The work in phonics which concentrates the child's attention on form rather than on thought is not begun immediately, but when begun, it is for some time kept separate from the reading lesson.

(b) From the very first the child should look upon reading as a thought-getting and a thought-giving process. This implies, first, that the material used will, from the child's point of view, be worth thinking about, and second, that the oral reading will be done in sentences rather than in isolated words. The second suggestion presupposes the silent study of a new sentence before it is read aloud.

(c) Good reading necessitates rapid eye-movements, rapid recognition of not only words but phrases.

(d) Pupils should steadily show growth in power to recognize new words. Drill in phonics gives this needed independence.

(e) The voice and body should help to express thoughts effectively and appropriately. To aid in gaining freedom of expression, dramatization, dialogue, and play of various kinds are used freely to help the reading, but are rarely introduced into the reading lesson itself except during the first weeks of school.

(f) Opportunities should be given for expressing the reading lesson by hand, in writing, picturing, and other forms of manual activities.

(g) As an aid to gaining a mastery of the language of choice reading selections, some judicious memory work should be required." (Reading in Public Schools by Briggs and Coffman, page 49.)

11. If a recitation period in reading is not longer than fifteen minutes, all of that time should be devoted exclusively to reading. Preparatory lessons in pronunciation and spelling should be given during the spelling period. Lessons in telling the story of the reading lesson should be given during the language period. Ten or fifteen minutes must be spent in reading proper by the pupils.

12. (a) The pupil's aim in studying the poem "Abraham Lincoln" might be to get a good grade for the day and, at the end

of the year, to pass to the next grade. This, however, is a low aim. His aim should be, rather, to become better acquainted with his friend, Mr. Lincoln.

(b) The teacher's specific aim is a desire for the pupil to appreciate more fully the greatness of heart and mind of Mr. Lincoln. A more general aim is to have the pupil learn to read better and interpret better, any poem.

(c) The poet has attempted here to have people see beyond the homely face of Mr. Lincoln or any other man the qualities of true manhood.

13. (a) The qualities of Lincoln, as given by the poet, are his strength, bravery, directness and disregard for superfluous details, keenness, ability to think and express himself clearly, sense of humor, wisdom, great will power overcoming all obstacles even when the very foundations of the earth seem to sink, sympathy in action for the oppressed, willingness to endure hardship and to die for a noble cause.

(b) Gettysburg Address.

14. (a) Lincoln was chosen primarily for the "large design" of saving the Union and secondarily for freeing the slaves.

(b) He bore the "burden of the Commonwealth," the great cares and anxieties of a fractured government, and so great were his sympathies that he felt at least indirectly responsible for the life of every soldier taken in the war and for the sufferings of their widows and children.

ARITHMETIC—Answers

(1)

$$8 \times 100 \text{ cu. ft.} = 800 \text{ cu. ft.}$$

$$\frac{3}{4} \text{ of } 800 \text{ cu. ft.} = 600 \text{ cu. ft.}$$

$$\frac{600 \times 1728 \text{ cu. in.}}{2150.42 \text{ cu. in.}} = 482.13 +, \text{ the number of bushels.}$$

(2)

$\frac{15}{17}$ of the number of men remained after the first battle.

$\frac{2}{5}$ of this number, or $\frac{6}{17}$ of the number of men were lost in the second battle.

$\frac{8}{17}$ of the number of men were lost in the two battles

The remainder, or $\frac{9}{17}$ of the number of men = 8100

The number of men = 15,300.

(3)

(a)

$$\frac{3}{4} \div \frac{5}{7} = \frac{21}{28} \div \frac{20}{28} = \frac{21}{20} = 1 \frac{1}{20}$$

This should be taught first because it easily and naturally grows out of preceding work in division.

(b)

$$1 \div \frac{5}{7} = \frac{7}{5}$$

$$\frac{3}{4} \div \frac{5}{7} = \frac{3}{4} \text{ of } \frac{7}{5} = \frac{21}{20} = 1 \frac{1}{20}$$

(4)

\$1250 = 2\frac{1}{2}\%\$ of the sum for which the property is assessed.

\$500 = 1\%\$ of the sum for which the property is assessed.

\$50,000 = the sum for which the property is assessed.

This is $\frac{1}{3}$ the real value, therefore the real value is \$150,000.

(5)

36% of John's money = \$60 + 24% of John's money

Then 12% of John's money = \$60.

(a)

1% of John's money = \$5.

100% of John's money = \$500

(b)

$$\frac{.05}{.25} \times \frac{1}{5} = .20 = 20\%$$

(c)

$$.8\% = .008 \quad .008 \text{ of } 6.75 = .054$$

(d)

$$250 = 200\% \text{ of } 125.$$

(e)

$$.035 = 3\frac{1}{2}\%$$

$$28.5 = 285\%$$

$$\frac{3}{4} = 75\%$$

$$7\frac{1}{2} = 750\%$$

$$.04 = 40\%$$

(6)

The square on CB = 27,225 sq. ft.

The square on AB = 14,400 sq. ft.

The square on AC = 12,825 sq. ft.

The line AC = 113.24 + ft.

The line DC = 73.24 + ft.

(7)

The perimeter of the wall is 330 ft.

$$\frac{8 \times 1\frac{1}{2} \times 330}{27} = \frac{440}{3} = 146\frac{2}{3}, \text{ the number of cu. yd.}$$

(8)

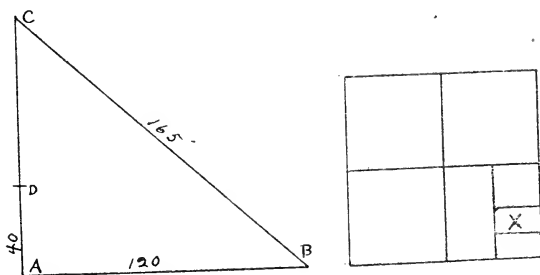
\$24 = $\frac{3}{800}$ of the insured value.

\$8 = $\frac{1}{800}$ of the insured value.

The insured value therefore = \$6400.

Then \$6400 = $\frac{3}{4}$ of the value of the house.

The value of the house is \$8533.33 $\frac{1}{3}$



(9)

58° 48' 20" W., longitude of first ship

43° 2' 5" W., longitude of second ship.

15° 46' 15", the difference in longitude.

1 hr. 3 min. 5 sec., the difference in time, since a difference of 15° of longitude corresponds to a difference of 1 hour of time, etc. Since it was noon when the message was received by the first ship, it was 1 hr. 3 min. 3 sec., after noon at 43° 2' 5" farther east when the message was sent.

(10)

The N. $\frac{1}{2}$ of S. $\frac{1}{2}$ of E. $\frac{1}{4}$ of S. E. $\frac{1}{4}$ of a section of land contains 20 acres.

The dimensions of this plot are 80 rd. by 40 rd.

To fence it would require 240 rd. of fencing.

(11)

9π sq. ft., area of base.

18π sq. ft., area of both bases.

6π ft., circumference of base

120π sq. ft., lateral area.

18π sq. ft. + 120π sq. ft. = 138π sq. ft., total area.

$3.1416 \times 138 = 433.54$, the number of sq. ft. in total

area.

$433.54 \text{ sq. ft.} \div 9 \text{ sq. ft.} = 48.17 +$, the number of sq. yd of sheet iron required.

$$20 \times 9\pi \text{ cu ft} = 180\pi \text{ cu. ft.}, \text{ volume of tank.}$$

$$3.1416 \times 180 = 565.488, \text{ the number of cu. ft. in tank.}$$

$565.488 \times 62\frac{1}{2} \text{ lb} = 3534.3 \text{ lb.}$, weight of tank full of water.

$$.8 \text{ of } 3534.3 \text{ lb.} = 2827.4 \text{ lb.}, \text{ weight of oil in tank.}$$

$$\frac{9 \times 3.1416 \times 20 \times 1728}{231} = 4230.1440, \text{ no of gal. in tank.}$$

(12)

$$.5 \quad .05 \quad .005 \quad .0005$$

It can be shown in this series of decimal fractions by using the equivalent common fractions, if necessary, that .05 is $\frac{1}{10}$ of .5 that .005 is $\frac{1}{10}$ of .05 and $\frac{1}{100}$ of .5, etc. After examining a number of such problems a pupil may be led to generalize and say that prefixing a cipher to a decimal divides it by 10, etc.

In a similar manner take a number of decimal fractions such as .5, .03, .004 and show by means of the equivalent common fractions that annexing a cipher to a decimal does not change the value of the decimal. For instance:

$$.3 = \frac{3}{10}$$

$$.30 = \frac{30}{100} = \frac{3}{10}$$

$$.300 = \frac{300}{1000} = \frac{3}{10}$$

(13)

By the conditions of the problem:

$$125\% \text{ of the cost of 1 yd.} = \$.90$$

$$1\% \text{ of the cost of 1 yd.} = \frac{1}{125} \text{ of } \$.90.$$

$$\text{The cost of 1 yd. therefore} = 100 \times \frac{1}{125} \text{ of } \$.90 = \$.72.$$

$$.12\frac{1}{2} \text{ of } \$.72 = \$.09, \text{ gain on 1 yd.}$$

$$\$.72 + \$.09 = \$.81, \text{ selling price per yd.}$$

(14)

$$4\% \text{ of } \$4896 = \$195.84, \text{ commission for selling wheat}$$

$$\$4896 - \$195.84 = \$4700.16, \text{ the amount to be invested}$$

in dry goods.

But the amount also contains his commission of 2% for buying.

Then $\$4700.16 = 102\%$ of the sum actually spent in dry goods, or for each \$1.02 only \$1.00 was spent in dry goods.

$\$4700.16 \div \$1.02 = 4608$, the number of dollars spent in buying dry goods.

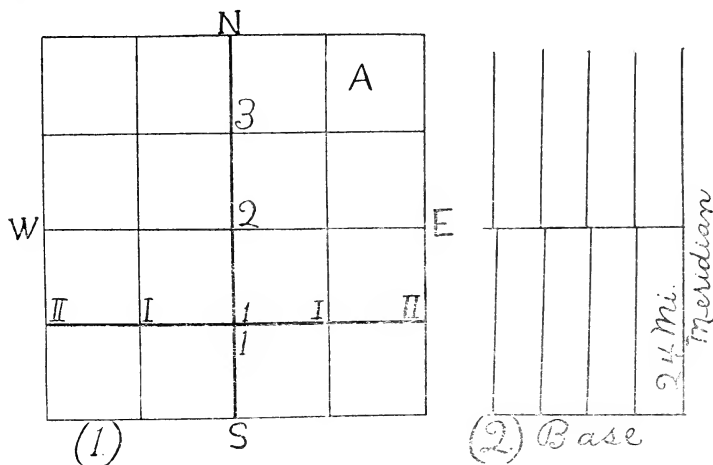
$\$4700.16 - \$4608 = \$92.16$, the commission on the dry goods purchase.

$\$195.84 + \$92.16 = \$288$, total commission.

CIVICS—Answers.

By H. Ambrose Perrin, Superintendent of Schools, Lincoln, Ill.

There are twenty-four "principal meridians in the United States." In diagram I, line NS is taken as a principal meridian. A true parallel of latitude is established as the "base line"—WE. On each



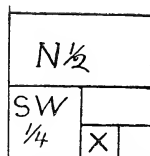
side of the base line and of the meridian line, at intervals of six miles, are "township lines." Township A is known as Township 3 North, Range II East of (said) Principal Meridian.

Each township is divided into thirty-six one-mile squares called "sections." They are numbered consecutively beginning with the upper right hand corner section and ending with the lower right hand corner section. Diagram III.

Each section, as shown in diagram IV, is divided into parts for the convenient description of land. Diagram IV represents section twenty one of diagram III. The portion marked X is known as "SW $\frac{1}{4}$ of SE $\frac{1}{4}$ of Section Twenty-one, Township 3 North, Range II East of (said) Principal Meridian. (This locates it in diagram I.)

6	5	4	3	2	1
7	8	9	10	11	12
18	17	16	15	14	13
19	20	21	22	23	24
30	29	28	27	26	25
36	35	34	33	32	31

(3.)

X SW $\frac{1}{4}$ of SE $\frac{1}{4}$.

(4.)

Diagram II represents the establishment of correction lines to make allowance for the convergence of meridians as they approach the pole.

2. The Constitution of the United States may be amended (1) By two-thirds vote of both houses, Congress may propose to the several states, amendments to the Constitution; (2) upon the application of two-thirds of the states, Congress must call a convention of delegates from the several states for the purpose of proposing amendments. In either case the amendment becomes a part of the Constitution when ratified by three-fourths of the several states—by legislatures or conventions as proposed by Congress.

States shall not enter into alliances or treaties with other states or countries without the consent of Congress; no state shall levy duties, imports or exports without the consent of Congress, and the proceeds from such when collected shall be for the national treasury; no state shall maintain an army or navy in time of peace.

3. An absolute monarchy is that form of government in which absolute power is vested in one monarch. The Roman Republic had frequent recourse to this form of government.

A limited monarchy is that form of government in which the powers of the ruler are limited by the Constitution or bylaws. Example, England.

A pure democracy is that form of government in which the laws are enacted by the whole body of people. Such a government is adapted only to small societies or to narrow territories. Example, Athens was a democracy of the purest type.

A republic is that form of government in which the sovereign power rests in the whole body of the people and is exercised by representatives elected by them. Example, United States.

4. The school officers of a township are: Three school trustees, one elected annually for a term of three years—elected on the second Saturday of April (except where the school township is identical with the town, civil township) in which case the election is on the date of the town election—first Tuesday in April; one township treasurer who is appointed by the trustees for a term of three years.

The chief duties of the trustees are: (1) Appoint a township treasurer; (2) divide the township into school districts; (3) apportion school funds among the districts of the township; (4) act as custodian of the school property of the township.

The chief duties of the township treasurer are: (1) Act as Clerk of Board of Trustees; (2) custodian of school moneys of township; (3) make annual and semi-annual reports of conditions and finances to trustees; (4) report such matters to the County Superintendent of schools as his report to the State Superintendent of Public Instruction may demand; (5) make semi-annual itemized account report to the clerk of each school district.

5. Bribery is the offense of influencing or attempting to influence the action of any one in the performance of a public duty by offering or promising any personal gain.

Perjury is the criminal offense of knowingly giving false testimony in judicial proceedings.

A civil suit is a suit brought against a person, company or corporation, called the defendant, by another person, company or corporation, called the plaintiff, for the purpose of compelling the defendant to pay the plaintiff a sum of money, or to give up to him certain property.

Tenure of office means the length of time for which the person is elected or appointed.

Writ of habeas corpus (see question 5 of July set).

6. Congressional districts are the districts into which the state legislature divides the state for the purpose of electing representatives to Congress. Each district is to contain as nearly as possible the Congressional ratio (see question 10 of the July set).

At the first session after the decennial census, the General Assembly divides the state into 51 senatorial districts from each of which three representatives and one senator are elected to the legislature. These districts are to be formed of contiguous and compact territory and bounded by county lines. No district can contain less than four-fifths of the senatorial ratio (found by dividing the state population by 51). A large county containing not less than one and three-fourths of the senatorial ratio may be divided into separate districts.

In dividing the number representing the population of each state by the Congressional ratio (see question 10 July), fractions occur in nearly every case and the sum of the integral quotients will be less than the whole number required. To correct this, the states having the largest fractions are allowed an additional representative each until the numbers provided for is secured. This extra Congressman is called Congressman-At-Large and is elected by the voters of the entire state.

7. Aims in teaching civics: (1) To train future voters for exercising their duties as citizens in a meaningful way; (2) to make government really representative thru enlightened voters; (3) to instill the ideas of privileged duties and responsibilities resting with the voters of the land; 4) to inculcate a spirit of co-operation and helpfulness toward government affairs; (5) to give information concerning the actual practical workings of representative governments as we have them.

8. The three departments of government are: (1) Legislative which has to do with making the laws; (2) judicial which has to do with interpreting the laws; (3) executive which has to do with the oversight of the enforcement of the laws.

9. A Congressman must be 25 years of age, 7 years a citizen of the United States, and, when elected, a resident of the state from which he is chosen. His term is two years. He is chosen by the direct vote of the Congressional district. A state may have as many Congressmen as the state population is times the Congressional ratio (see question 10 July).

A Senator must be 30 years of age, 9 years a resident of the United States, and a citizen of the state from which he is chosen. The term of office is six years. He is elected by the direct vote of the people of the state. Each state is entitled to two Senators.

10. The town officers are: Supervisor, clerk, assessor, collector, highway commissioners, justices of the peace and constables (others may be added).

The supervisor receives and pays out all funds for the expense of the town except for road and bridge purposes, represents the town on the county board, and is overseer of the poor.

The clerk is custodian of all records, books and papers of the town, keeps a record of the proceedings of all town meetings, certifies to the county clerk on or before the second Tuesday of August, the amount of taxes to be raised for town purposes.

The assessor must deliver to the county clerk a record of the assessed valuation of every property holder in the town.

The collector collects the taxes of the town and pays them over to the proper officers.

There are three highway commissioners. They elect one of their number treasurer who receives all moneys collected in the town for road and bridge purposes and who pays out the same upon the order of any two commissioners.

The justices of the peace may try civil suits when the amount in dispute is less than \$200 and all cases of misdemeanor, when punishable by a fine, all cases of assault, and assault and battery.

11. A senator, representative, supreme judge or a vice-president may be removed from office only upon conviction by impeachment.

12. (See question 12 of July set.)

13. The U. S. Judicial Courts are: Supreme Court, Circuit Court of Appeals, Circuit Courts, District Courts, Court of Claims.

The Illinois Courts are: Supreme Court, Appellate Court, Circuit Court, Probate Court, County Court, Justice of the Peace.

14. Bills for revenue shall originate in the house of representatives, but the senate may propose or concur with amendments. This provision is made because the members of the house are (were) the only direct representatives of the people who should control the public purse. At least, representatives must stand accountable every two years while the senators are accountable to the people by election only every six years.

STATE COURSE OF STUDY.—Answers.

By Charles McIntosh, Superintendent Piatt County Schools
and Editor Illinois State Course of Study.

1. The advantages of a plan of alternation for our country schools are:

- (a) Reduces greatly the number of classes it is necessary to organize in a country school.
- (b) By reducing the number of classes necessary, it makes possible a longer recitation period, and thus gives the teacher a better opportunity to present the work and test results.
- (c) In the smaller country schools many of the classes are too small. A class with but one pupil cannot be as interesting as a class with five or six. Alternation helps to make classes large enough to be interesting, develops more of the spirit of competition and emulation and leads to better work.
- (d) Increases the teacher's efficiency by lessening the number of recitations for which he must prepare each day.

The most important disadvantages are:

- (a) It puts children of different ages and different degrees of mental development together making it more difficult to keep the class working as a unit.
- (b) It sometimes requires the taking up of subject matter out of the natural and logical order.
- (c) In larger country schools, the alternation of studies makes the classes too large to be handled effectively.

2. There should be five classes in reading in a country school, and under ordinary conditions only five. The third and fourth year classes may and should be combined; likewise the fifth and sixth; likewise the seventh and eighth. The classes to organize then are one in each of the readers as follows: First, Second, Third, Fourth, Fifth. The plan by which the third and fourth year classes may be combined is for the pupils to read a third reader of one series in the third year, and a third reader of another series in the fourth year. In this way two third readers are read in the class. In the same way, the fifth year class should read a fourth reader of one series and the sixth year class a fourth reader of another series; the seventh year class a fifth reader of one series and the eighth year class a fifth reader of another series.

3. The useful purposes served by an examination system are as follows:

- (1) Provides a stimulus for reviewing and organizing the materials which have been taught during the term or year.
- (2) The examination is in itself a review exercise of no mean value.
- (3) Furnishes a test of the efficiency of the teaching.
- (4) May be looked upon by the pupil as a partial test of his efficiency in school work.

For discussion of these purposes, see pages 14-15, State Course.

4. Stories should first be told by the teacher as dramatically as possible. It is not wise to read stories to the class in the language recitation. The facial expression and the direct glance of the teacher is a most valuable aid in impressing the hearers. The stories should be retold by the children several times, after which, they may be illustrated by the children.

The poem should be read as a whole, to the children in the best possible form. By means of oral explanations, the teacher should seek to create a series of vivid images embodying the meaning of the poem. Quaint or unusual phrasing should be pointed out; the thought of rhythm should be accented or emphasized in the teacher's oral rendition. Blackboard sketches may be made to summarize the meaning of each stanza. Following this, the pupil may memorize the poem.

Dramatization is the most powerful aid in securing excellent expression in oral forms. In dramatizing, the pupils are questioned to bring out the different characters in the story and what each one does, then children should be selected to represent each of the characters needed. The play should then proceed. When it is finished, the children criticize the manner in which it was done, and efforts should be made to improve the dramatization at subsequent repetitions.

5. Foot rules with inches divided into eighths.
Card board strips 1" by 2", 1" by 3", 1" by 4", 1" by 6".
Inch squares of pasteboard, 20 for each pupil.
One thousand match sticks four inches long.
One box of toy money.
A set of grocer's tea scales, with iron weights 1 oz. to 16 oz.
A set of cards 4" by 6" with dots like dominoes showing the combination of two numbers up to 10 plus 10.
A similar set of cards with figures instead of dots.
6. His early training in reading did not give him a sufficient mastery over the phonetic side of his work.
He learned to read a word at a time.
He has never learned to let his eye take in larger groupings of words so that he may run ahead and catch the meaning.
He has worked with the formal side so long that reading is drudgery of the hardest kind for him.
Some of the plans to help these readers are as follows:
Read silently for the thought.

Practice reading groups of words, phrases, and clauses.
Give analysis of subject matter with the aid of the teacher.
Answering questions upon the thought of the selection in the words of the text at times.

Telling orally what has been read silently.

7. Construction work gives:

Quickness of perception.

Power of concentration.

Intellectual grasp.

Helps to give number work that high degree of mental discipline which it is so well calculated to afford.

Adds to the interest and pleasure of the number work.

The basic principles involved are: Cutting, representative construction, box making, book making, apparatus making, weaving, decorative construction.

8. Rain, work of water, weather, human types, soil, sky studies, trees.

9. Sewing in the fifth and sixth grades, cooking in the seventh and eighth grades.

The purpose of such course is:

- a. To connect closely the school and home.

Review the topics presented in this work in the earlier grades in the nature study work.

Centralize all this work around the two leading industries that are carried on in the home—sewing and cooking.

It is suggested that two lessons of ninety minutes each be given each month, taking the time after recess on the first and third Fridays of each month.

10. The composition in the seventh and eighth years is to be taught in connection with the grammar. There is a specific purpose in the composition work of each month, this purpose to be in the pupil's minds as well as the teacher's. This purpose should not be lost sight of next month, but whatever of knowledge about sentence structure is gained one month, should be used ever afterwards. A fair proportion of the composition should be oral, the teacher taking advantage of the opportunities for oral composition offered in the recitations in other subjects. Written themes should be given occasionally, on subjects carefully assigned, but not written until the subject had been carefully gone over in the class. Each composition should be definitely criticised by teacher after it is prepared. Five minute themes upon one subject are excellent for drill in sentence structure. Written work in other subjects should be good composition in matter and form.

11. Shape of picture in connection with subject depicted, what the center of interest is, where it is placed in the picture, why it is so placed, and what means the artist has used to call attention to the center of interest.

Example:

Lepage's Joan of Arc.—

Shape. Nearly square, high to give depth to picture so vision could be represented in background.

Center of Interest. Girl.

Where placed. In foreground and at side of picture.

Why so placed. To make prominent, to leave space at side for representation of vision.

Means used by artist to call attention to center of interest.

Placed in foreground, light falls full upon face and upper part of body, other things in the picture subdued and not plainly marked out.

12. The school is concerned in the education of the whole child, hence it should be interested in what the child does outside of school. His home activities should help the school, and his school activities should help with his home duties. Each child needs actual contact with nature and natural things. He needs to study the various activities about him on the farm. Organizations of pupils interested in the same thing help in the accomplishment of that thing for each of them. Boy's and Girl's Clubs are formed primarily to study farm activities. They furnish opportunities for social intercourse on a high plane, they furnish opportunities for developing power in initiative, for working hand and brain at the same time, for cultivating the power of working with other people, for effective team work of a district or locality. There can be a local organization in each district with the teacher as manager, a pupil as president, another as secretary. Meetings can be held once each month for discussion and explanation of practical work undertaken, for literary exercises, etc. These clubs should be affiliated with the township and county clubs and with the Farmers' Institute and the Domestic Science Association, the boys clubs with the former, and girls' clubs with the latter.

ORTHOGRAPHY—Answers.

By Elmer W. Cavins, Teacher of Orthography and Penmanship
Illinois State Normal University.

1. A **hymonym** is a word having the same sound as another, but differing from it in meaning; as **beach** and **beech**; **canvas** and **canvass**.

A **suffix** is a significant syllable joined to the end of a word, as **manly**, **fertile**, **patronize**.

A **trisyllable** is a word of three syllables; as, **po-et-ry**.

A **diphthong** is a union of two vowel sounds in one syllable; as **ou** in **found**, and **oi** in **toilers**

A **derivative word** is a word formed from a primitive word by changing it internally, or by adding a prefix or suffix; as, **men**, **suffix**, **strikers**.

gl ^u ad	l ^u ettuce	iv ^y	ow ^e	un ⁱ t
ch ^a ir	th ^e re	sil ^v er	ox ^e n	stud ^y
car ^e pet	ear ^y	wh ⁱ rl	ord ^e r	burn ^e
caught	ob ^e y	mach ⁱ ne	move	rule

3. post, after; as in postscript, postpone. (in some words post means put or place as in impost.)

inter, between, among; as in intercede, intersect.

poly, many; as in polygamy, polynomial.

mono, one, single, sole; as in monotone, monoply.

cede, go, yield; as in antecedent, secede.

dict, speak, say, tell; as in contradict, verdict.

fect, bend, turn; as in reflect, infect.

polis, city; as in metropolis, Illiopolis.

rupt, break; as in eruption, bankrupt.

anti, against; as in antipathy, antidote.

4. acorn, ā'kōrn or ā'kern; arctic, ārk'tik; fatigue, fa tēg';
tortoise, tor'tus or tor'tis; pedagogy, ped' a gō jī; bronchitis,
brōn ki' tis; routine, roo tēn'; suicide, sū' i sid; recall, rē kol'
bureau, bu' rō.

5. scent, smell, odor, fragrance.

unite, join, combine, connect.

scorn, sneer, disdain, contempt.

soothe, calm, quiet, pacify.

scene, view, sight, display.

6. Coral reefs are abundant in the West Indies, but none exist on the western coast of the two Americas.

The choral club meets twice a week.

The first word of every sentence should begin with a capital letter.

The corner stone of our national capitol was laid in 1793 and the building completed in 1827.

The vessel is unloading at the quay.

The Thousand Isles are situated in the St. Lawrence River near Lake Ontario.

The mark called a caret resembles the letter v inverted.

Diamonds and other precious stones are estimated in carats and fractions of carats.

The Statue of Liberty is at the entrance to New York harbor.

In the United States each state has a "statute of frauds" to prevent many fraudulent practices.

1. biped—bi, two; ped, foot.

A two-footed animal, as man. "Man has been defined as a biped without feathers".—Duke of Argyll.

subscription—sub, under; script write; ion, act of.

Act of writing one's name under, or below; as, under an order for a periodical. A sum subscribed or promised; as, his subscription to the new church building.

secede—se, aside; cede, go.

To go aside; to separate.

South Carolina was the first state to **secede** from the Union.
autograph—**auto**, self; **graph**, write.

One's own handwriting; especially, one's name **written** by him self.

Billie Burke, an actress of some note, has recently been selling her picture and **autograph** for one dollar, and giving the money to the Belgians.

circumscribe—**circum**, around; **scribe**, write, draw.

To **draw** a bounding line **around**; hence to mark out the limits of; to restrict; as, to **circumscribe** the power of royalty.

liberate—**liber**, free; **ate** (verb ending)

To set **free**; to release from bondage; as, to **liberate** a slave or prisoner; to **liberate** the mind from prejudice.

contradict—**contra**, against; **dict**, speak.

To **speak against**; to assert the opposite of. "Dear Duff, 'prithee **contradict** thyself and say it is not so."—**Shakespeare**.

paternal—**pater**, father; **al**, pertaining to.

Pertaining to a father; fatherly; as, **paternal** love.

manufacture—**manu**, hand; **fact**, make.

(Formerly, **manufacture** meant to **make by hand**.) To make wares or other products by hand, by machinery, or by other agency; as, to **manufacture** cloth, nails, glass, etc.

transmission—**trans**, across; **miss**; send; **ion**, act of.

the act of **sending across** from one person or place to another; as, the **transmission** of letters, news, and the like.

PEDAGOGY.—Answers.

By L. P. Frohardt, Superintendent of Schools,
 Cranite City, Illinois.

1. Five aims in Public School Education.

(a) To awaken and develop the dormant potentialities of the child mind. (b) to give the child the power to interpret symbolic speech correctly so that the storehouse of knowledge found in the literature of all ages may become his heritage. (c) To supply him with a fund of correct habits so he may live a correct social life among other civilized beings. (d) To supply him with a fund of knowledge so that he may have a basis for determining facts and principles for correct judgments that will be necessary in solving the problems of civilized ideals and standards that are to be the criteria by which his conduct is to be moulded. These must be colored with emotion to become corrective of his conduct.

The whole may be briefly summed up in the true and ultimate aim of education, viz.; to equip the child most completely for his highest possible degree of social efficiency.

2. A prompt and vigorous attack of any undertaking inspires confidence, while a poor beginning weakens confidence, and causes wrong and dilatory habits to become established before work gets under full headway.

A right start is when everything starts off the first day with little or no friction or delay, and practically every item of daily routine initiated and every class organized and having received specific assignment of work for following day.

3. A weak-kneed principal or soft-hearted teacher may cause an unruly pupil to become a standing source of disorder to the entire school and the unruly pupil himself may ultimately receive greater punishment, possibly even fatal to him, when, on account of his unsocial conduct which the weak-hearted teacher allowed to become habituated in school, society must correct with the most rigid severity in the deprivation of the liberty or even the life of the offender.

A young teacher just from college began her school and tried to run it on the "soft pedagogy" theory. Harshness or sternness were to her mind unnecessary and out of place. It was but a day or two and several boys began to make matters rather lively for her. Her principal found it out and called her attention to the fact that she must change their conduct.

She said she was going to win them by love. The boys soon "caught on", and a merry time was theirs. She talked to the boys in endearing terms and cried over their misbehavior. Matters went from bad to worse till her principal told her she must either get better results in discipline at once or he would have to get someone who could. A hint as to the manner in which this might be brought about was also dropped. The suggestion was followed out and he stood by while the remedy was applied to see that it was effectually done. This was the turning point in this teacher's career. Before the end of the year she was one of the most successful of his teachers. The love theory was not set aside but only changed in the manner in which it was applied. Hickory oil or strap oil are at times very efficacious, especially in extreme cases, and the remedies are not at all at variance with the true love theory.

4. Preparing for "First day of School."

(a) Make a visit to the building to acquaint yourself with its general arrangements and conditions, the location of wardrobes, closets, exits, etc. (b) Have on hand a proper supply of materials of all kinds at least for the first day. (c) Get names of pupils and list of classes from predecessor and, if possible, a statement of the work done by the predecessor in each of the classes, and a copy of each of the text books used. (d) Construct a tentative program and make a general plan for the passing of lines and the general routine of the school. (e) If in a graded school, meet the principal beforehand and get suggestions from him about your work and the requirements of the school.

5. If in a country school, I would get from the records of the preceding year a list of the number and kinds of classes, and from this and the present apparent needs construct my program, consolidating classes as far as practicable and give to each class its proper proportion of time according to the importance and size of the class.

If in a village or city graded school I would endeavor to get a copy of last year's program of the same grade I am to teach. I

would follow this to the extent it would appeal to me as practical and make such re-arrangements as would seem needful, and, having drawn up a tentative program, I would submit it to the principal for suggestions or corrections. I would then endeavor to carry out this program on the very first day, making only such changes thereafter as occasion might demand.

6. There should be sufficient light in every school room, about one-fifth of the area of the floor space, and the light should, if possible, come from the left side. Front light should always be avoided. Curtains should be provided and regulated according to the amount of light obtainable, partly cut off on bright days and the full amount on cloudy days.

Ink should be jet black, not pale or blue, and the paper should be a dead white, not glossy, or of some gray or yellowish tint. Dead white paper and jet black ink are generally most practicable.

Pencils should be of proper length, of good material and properly sharpened.

Distance of reading matter from the eye should be about fourteen or fifteen inches.

7. Good order is secured by constant vigilance and seeing that all are constantly and properly employed. Idleness is a prolific source of disorder. The teacher herself must be quiet and composed and not loud and blustering in her manner. Any appearance of disorder should be promptly checked. The teacher must be resourceful and tactful to have good order.

8. Corporal punishment is very liable to be used injudiciously and indiscriminately. Unless properly administered it aggravates rather than corrects the evil. It is also liable to cause legal proceedings against the teacher by resentful parents, if the punishment were severe, and this causes unpleasant notoriety; and if the teacher should lose the case it would practically end her usefulness in that school.

If corporal punishment is administered judiciously and under proper conditions it may be the quickest and most direct and shortest method of correcting an evil. While frequent and indiscriminate corporal punishment may be a sign of weakness on the part of the teacher, totally refraining from it may also be a sign of weakness. If all other means have failed it should be resorted to in a judicious way.

9. Questions of the kind indicated are not thought-provoking and can be answered by a single word instead of a complete sentence.

It would be better to ask the pupil to give a brief account of the discovery of America. Give a brief sketch of the life of the discoverer. Any facts not brought out in this way could be gotten by additional questions, but the pupil should be given an opportunity to exercise thought and to display originality.

10. The teacher should, if possible, be a citizen of the community in which he teaches. He should take an active part in the social, civil, religious, and commercial interests of the community. He should lead or take part in anything that makes for the betterment of the community in the fullest sense of the word. It may not be best to be an active politician, in the sense of partisan

politics, but he should have deep and firm convictions and dare to express them tactfully when occasion demands. He should always exercise his right of suffrage and vote for the best candidates as far as he understands them.

ELEMENTARY SCIENCE.—Answers.

By A. S. Anderson, Superintendent of Schools, Mt. Carmel, Ill.

1. The female mosquito possesses a piercing stylet. Certain species of mosquitoes seeking food by piercing the skin of a person infected with malarial or yellow fever, is able to carry the germs of these diseases to a healthy person.

2. Branches containing flower buds of the Jonathan and the Minkler apple tree called scions are grafted on a growing Ben Davis Apple tree called the stock.

The many methods of grafting are only many ways of doing the same thing, the essential of which is first to carefully match the line of the bark and wood of the scion to the stock of the tree, second, to maintain a smooth contact with careful wrapping, and keep the whole wound covered with grafting wax to prevent evaporation of the sap of the tree. Thus it is possible to grow Jonathan and Minkler apples on a Ben Davis apple tree.

3. No. They are both of more use than harm to growing vegetation, for they both destroy rodents that are much more destructive to crops. The crow also destroys great numbers of injurious insects.

4. Seed corn should be gathered after it is completely filled and before frost. After seed corn is gathered, it should be kept from freezing until it is thoroly dry. It should therefore be kept suspended or crated in such a manner and in such a place that dry and tempered air may circulate around each ear of the corn until it is thoroly dry.

5. Seeds planted in the spring will produce onions that should be planted again the next spring. These onions will then produce seeds at the end of the second season after the first seeds were planted. If onion sets are planted first, onion sets will be produced at the end of the second season instead of seeds.

6. No. Because it is mainly insectivorous. The front foot is very broad and fully webbed, also provided with strong claws adapted for digging.

7. For flower gardens those flowers that blossom before the middle of June or after the first of September, for example, nasturtiums, violets and the like. For vegetable gardens those vegetables that mature for use before the middle of June, for example, lettuce, radishes and the like.

8. Any wind is caused by inequality of atmospheric pressure of different regions. This inequality is due to rise of temperature of different regions. Air that is heated expands and being lighter it rises, the surrounding heavier air is pulled by gravity into the place occupied by the light air. This causes currents of air or wind. The direction of a wind is determined by the relative position of a high pressure region and a low pressure region. Fundamentally, a low pressure area east of a high pressure area will cause a current of air to flow from the high pressure area to the low pressure area and produce what is called a west wind.

A barometer is an instrument used to measure differences in air pressure. The most common forms are the mercuric barometer and aneroid barometer.

9. Black soil is rich in organic matter, because it contains humus or vegetable mould. For this reason it is more productive. It is more easily tilled, because it never becomes so compact as clay. Yellow clay soil contains little or no organic matter. For this reason it is lacking in some essential elements for a productive soil. It is hard to till because it is compact and brittle when dry, and plastic and tenacious when wet.

10. Both are rich in proteids thus being very valuable as food for animals.

Both harbor bacteria on the roots. These bacteria form nodules that contain nitrogenous compounds. Nitrogen is an essential for plant growth. Both of these plants are valuable in restoring nitrogen to the soil by means of these bacteria and thus these plants serve as fertilizers to soils needing nitrogen.

PHYSIOLOGY—Answers.

By William Hawkes, Superintendent of Schools, Litchfield, Ill.

1. By adulteration of food is meant the substituting of a material of inferior quality for the genuine, or the addition of some foreign substance for preserving purposes or to give to the substances an added value.

Milk to which water has been added or from which cream has been extracted is a somewhat common form of adulteration. Formaldehyde is sometimes added to milk to preserve it. Coffee when sold in the ground state, may be chiefly chicory, beans, barley, wheat, or peas. Syrups and honey are often adulterated with glucose or cheaper grade syrups. Candy is often colored by harmful coloring matter.

2 The spleen is a gland located just under the diaphragm to the left of the stomach. It is a storehouse of nutritive material, and a destroyer of impurities. The worn out red corpuscles of the blood are destroyed in it, and new white corpuscles are probably created there.

Mouth breathing makes deep breathing almost impossible; the air taken into the lungs is not so thoroly warmed or strained as it is when taken thru the nostrils; the mucous membrane of the nose of a mouth breather becomes dry and shrinks, decreasing the circulation and inducing nasal catarrh; it gives the face an unpleasant appearance; and has bad effect upon the voice, giving it a hard twang and robbing it of its pleasantness.

The cilia are hair like projections of protoplasm. They are found in the epithelial cells of the air passages and are continually in motion. They sweep forward with a rapid movement and recover the original position with a slower movement. They thus continually sweep toward the entrance of the air passages particles of dust, etc., which may have entered.

3. Saliva. The saliva comes from the parotid, the submaxillary, and the sublingual salivary glands. The parotid glands are located below and in front of the ear on each side of the face, the submaxillary under the two halves of the lower jaw, and the sublingual underneath the mucous membrane of the floor of the mouth, below the tongue. The saliva moistens the food in the mouth and prepares it for swallowing, and also changes some of the starch of the food into sugar.

4. The circulatory system consists of the heart, the arteries, the capillaries, and the veins. The heart is located in the thoracic cavity and forces the blood outward on its journey around the body. From the upper portion of the heart arises the aorta, the chief artery. This artery subdivides or sends off branches until all parts of the body have been reached.

As the arteries subdivide and send off more and more branches they become smaller and smaller, until a network of microscopical hair-like tubes is formed, reaching every portion of the body. These are the capillaries. The capillaries then unite in the different parts of the body, becoming larger as they unite, to form veins. The blood, forced onward by the pressure of other blood sent out by the heart, is gathered from the capillaries into the veins, and carried to the heart whence it is forced into the lungs. When a particle of blood reaches the right side of the heart from the veins it is dark purple in color and contains little or no oxygen, much carbon dioxide, and some other body wastes. From the heart the blood is forced into the lungs where it comes into contact with the air taken in by breathing, gives off its carbon dioxide, and takes on a fresh supply of oxygen. This changes its color from dark purple to bright red. From the lungs the blood is carried to the left side of the heart still carrying its supply of oxygen and some of its body wastes. From the heart the blood passes to all parts of the body. As it passes the kidneys and liver the wastes are removed and excreted as it passes the capillaries of the stomach and intestines, it takes on some of the prepared food materials and carries them to some portion of the body where the cells are at work and where oxidation takes place. Here the oxygen of the blood is given off to supply the energy needed in oxidation, the food substances are given up to be built into new tissue to repair that broken, carbon dioxide, formed by the oxidation of the tissue

is taken on, and the blood begins its return going to the heart and lungs to start the same process again.

5. The brain, spinal cord, and nerves arising from them are called the central nervous system. The ganglion and nerves arising from them, not included in the above, are the Sympathetic nervous system.

In general the gray matter of the nervous system consists of nerve cells. A nerve cell is composed of the protoplasmic cell body with its cell wall and branches. These branches are called dendrons or dendrites if short and axons if they are long and put the cell into communication with a distant part of the body. The white matter of the nervous system is composed mostly of nerve fibers. A nerve fiber consists of the middle core or axis of protoplasm, and two surrounding sheaths of tissues. The central axis is the conducting part of the nerve fiber.

6. The use of intoxicating drinks weakens the will power of the user, destroys the ability or desire to make fine moral distinctions, weakens the intellectual abilities, and has a general harmful effect upon the character.

The effect of the continued use of intoxicating drinks upon the heart is to cause its cells to undergo a fatty degeneration and thus weaken heart action; in the lungs a congested condition of the capillaries is produced which calls for more oxygen; the increased rate of breathing causes a greater demand on the muscles and the digestive tissues, and thus there is a resultant loss to the body of both energy and heat.

The result of intoxicating drinks upon the brain may be inferred from the fact that experiments where large doses of alcohol have been used, invariably indicate that the "reaction time" is lengthened. Many large corporations have forbidden the use of alcoholic beverages among their employers because of the recognized fact of impaired efficiency.

7. By oxidation is meant the chemical combination of oxygen with some other substance. Within the muscles of the body are stored up carbohydrates, proteids, fats, and oxygen. Under proper condition the cell brings about the chemical union of the oxygen with some of the other elements and certain products result. Among the products of chief importance to the body are heat and energy. Waste products such as carbon dioxide, various forms of acid, and other wastes are produced, which are excreted from the body.

8. The digestive tract is composed of the mouth, stomach, and intestines. In the mouth the food is masticated or ground up, moistened for swallowing, and the change of its starch into sugar is begun by the saliva. In the stomach the food is still further mixed or churned by the muscular action of the stomach. By this action the food is mixed with the gastric juice. This juice contains two enzymes, pepsin and rennin. The pepsin transforms the proteids of the foods to soluble form called peptone. The rennin acts upon the proteids found in milk, after which this proteid is digested as other proteids are. Probably some mineral salts are dissolved by the hydrochloric acid of the stomach, which also destroys some disease germs and ferments.

There is some preparatory action for digestion upon food stuffs in the stomach besides the digestion of the proteids. Fats are liquefied by the heat of the stomach. Proteids cover of starch, fats, etc., are removed by the proteid digestion and starch and fats are thus freed for digestion. The mixture of all these digested and undigested particles results in milky fluid called chyme.

The chyme enters the intestine where the last stages of digestion are carried on. The small intestine receives thru one duct the secretions of the liver and pancreas called the bile and the pancreatic juice. It also secretes by its own glands the intestinal juices.

The bile acts upon fats by saponifying them. It also tends to prevent the putrefaction of foods in the intestine, and separates the proteids into such forms that they may be acted upon by the pancreatic juice.

The pancreatic juice completes the transforming of the proteids to peptone, the remaining starches not acted upon by the mouth digestion are converted into sugar and prepared for absorption.

The intestinal juice converts what remains of the starch to sugar and also converts all sugar into grape sugar.

9. The liver is located just beneath the diaphragm on the right side, on a line with the stomach and partly overlapping it. The liver stores digested sugar and starch in the form of glycogen; it destroys poisons brought to it by the blood and secretes the bile. The action of the bile is given in 8.

The kidneys are located one on each side of the backbone just below the lower ribs. The kidneys receive the waste laden blood from the body and remove much of the waste-urea from it. The urea mixed with water, is excreted from the body, while the waste freed blood, returns to the circulation.

The perspiratory glands are located under skin in all parts of the body. They collect from the blood nitrogenous wastes, some salts and water, and excrete them upon the surface of the body.

Sebaceous glands are scattered thruout the body in the dermis. They secrete oil and discharge it upon the hair and skin.

The lachrymal glands are situated on the outer and upper orbit of the eye. They secrete a salty liquid called the tear or the lachrymal fluid.

The parotid, sublingual, and submaxillary glands—see 3. Spleen—see 2.

10. The best method of ventilating a school room is to have a constant supply of fresh air forced into the room after having been brought to the proper temperature. There should be a ventilating shaft connection with an opening near the floor. In most schools this method is not provided. When no method whatever is provided, one window on the side of the building from which the wind is not blowing, should be lowered from the top and another raised from the bottom. If this makes it too cold for pupils or is found impractical, the lower sashes of the windows should be raised six inches and the space thus made filled with a board sawed to fit. This allows of some ventilation between the sashes.

In the ordinary stove heated room the stove should be "jacketed." There should be a pipe provided to bring in to the jacket a supply of fresh air from outside and a ventilating register near the floor should be provided for the extraction of the vitiated air. This method can be used in any stove heated room.

11. Bone is composed of animal matter, cartilage or gristle, and mineral matter, chiefly lime. If a large bone is examined we find it to be covered with a tough cartilaginous coat called the periosteum, a layer of hard bone, one of soft or spongy bone, usually a hollow space filled with a fatty substance called marrow.

When examined more closely it is found that the bones are pierced by canals, called the Haversian Canals. Thru these openings the blood vessels of the periosteum penetrate to all parts of the bone. These main canals are connected by smaller ones called canaliculi. These small canals are at right angles to the larger ones, and connect them with a series of cavities called lacunae. The lacunae contain the living bone cells. These bone cells secrete from the material brought to them by the blood the bone materials. The lime part of the secretion forms in concentric rings about the lacunae and these layers are called lamellae.

In general, bones are to give shape to the body, to produce motion when acted upon by the muscles, and to protect the more vital parts of the body.

The flat bones are used generally for protection as in the case of the ribs, the shoulder blades and the bones of the skull, while the larger bones of the limbs are used to give motion to the body.

12. The spinal cord is about seventeen inches long, about three-quarters of an inch in diameter, and is composed of both gray and white matter, the white being on the outside. It has three membranes for an outer covering, dura mater, the arachnoid, and the pia mater.

While the cord is nearly cylindrical in shape, it is somewhat flattened from front to back and has two fissures, the anterior one being wide and shallow and the posterior one being narrow and deep. The white matter of the cord is on the outside and consists of nerve fibres running lengthwise of the cord. Within the cord is a darker substance called the gray matter, which is composed chiefly of nerve cells, tho some fibers are present. This gray matter is arranged in the form of a letter H or forms a body of somewhat butterfly shape. The cord gives off at regular intervals nerve roots which unite a short distance from the cord to form pairs of nerves on the opposite sides of the cord. There are in all thirty-one pairs of these nerves.

The spinal cord has two functions. It receives impulses from different parts of the body. Some of the impulses are received by a nerve cell in the cord, and a motor impulse is sent out and action ensues in some part of the body, without the action of the brain. This is reflex action. The spinal cord also transmits nerve impulses from all parts of the body to the brain, and motor nerve impulses from the brain to all parts of the body.

13. We are surrounded by a substance which fills all space, called ether. By some disturbing body vibrations are set up in the ether.

Some of these vibrations enter the eye and fall upon the retina which is an expansion of the optic nerve located at the back of the eye-ball. This irritates the optic nerve which carries the impulses so received to the brain and "we see." The vibrations from the external ether enter the eye thru a small opening in front. This opening is the black part of the eye, and is called the pupil. Surrounding the pupil is the colored part of the eye—the blue or the brown, etc., called the iris; back of the pupil is the crystalline lens, which divides the eye-ball into two chambers or cavities. The one of these in front of the lens is filled with a watery fluid called the aqueous humor and behind the lens is a much larger chamber filled with a semi-liquid substance called vitreous humor. The general shape of the eye-ball is given by the cartilaginous outer coat called the sclerotic coat. Within this is a very thin black membranous coat called the choroid. The sclerotic coat forms the outside of the eye-ball and gives it shape. It has a curious opening in front which is covered by a tough transparent membrane called the cornea. The optic nerve enters the back of the eye and spreads out there forming on the inside of the eye-ball a sensitive coat called the retina.

14. 1. Take plenty of exercise in the open air every day. Walking or some form of athletic games is excellent for this.

2. Take plenty of sleep, seven or eight hours each day, in a well ventilated room.

3. Chew the food thoroly. Eat slowly. Eat only simple nutritious food and only amid pleasant surroundings.

4. Keep personally clean. Bathe daily. Drink plenty of water, and take time to properly care for the body.

5. Obey the laws of public health. Be careful to keep articles of food clean. Be scrupulous in observing quarantine and all other public health regulations. Keep the mind in a healthy state by thinking kindly, healthy, optimistic thoughts.

PENMANSHIP.—Answers.

By Charles McIntosh, Superintendent of Piatt County Schools.

1. Requires applicant's own writing.

2. (1) m n x (2) i u w v e (3) l b h k f (4) a o c (5) t q p q (6) j g y z (7) s r (See page 66 State Course.)

The height of the one space small letters should be one-sixteenth of an inch (See page 65 State Course.)

3. FARMERS STATE BANK OF MONTICELLO

Monticello, Illinois, January 16, 1915

Pay to the order of.....E. B. LEWIS.....\$100.00

One Hundred.....Dollars

and charge to the account of

Chicago National Bank

Chicago Illinois

J. W. AYRE

Cashier.

Pay to the order of

E. F. Dunne

E. B. Lewis

E. F. Dunne

4. There are a number of exercises that may be used to develop the muscles used in writing, as follows: (1) Opening and closing the hand, (2) shaking the hand from the wrist, (3) using the push and pull exercise arm resting on muscles of the fore-arm hand not touching the desk, (4) same exercise fingers turned under and nails gliding on paper, (5) same exercise with open hand, (6) same exercise with clenched hand, (7) push and pull and oval exercises on board, (8) making form of letters in air, etc.

To teach uniform motion, have the various exercises given above performed to music, or while counting.

Calisthenic exercises in rhythm also help to teach uniform motion. Proper muscular development and control are very necessary to good penmanship, as is also the habit of uniform motion in making the letters.

5. The teacher should exercise the greatest scrutiny possible over all the writing of her pupils, especially those pupils in the primary and intermediate grades where the habits are being formed. Correct position in writing, uniform movement and good form are largely matters of habit. Unless the suggestions made in the writing period are followed in doing the written work required in other subjects, there can be but little improvement in penmanship. In many schools too much written work is done in the primary and intermediate grades. From the standpoint of penmanship, at least, it would be better if less were done more carefully and painstakingly. If the teacher could insist that the small amount of written work required be well and carefully done, improvement in writing would be sure to follow.

6. Correct position means the correct manner of sitting in writing. This means body erect, feet flat on floor, desk of proper height, arm on desk, etc.

Movement refers to the kind of movement used in the writing, whole arm, finger, muscular. The State Course suggests the muscular movement from the very beginning.

Rhythm means a uniform rate of movement in writing.

In order to establish these things in the first and second grades, the pupils should be asked to assume the correct position before beginning to write and when they get out of position should be brought back in the proper one by the word "position" pronounced by the teacher.

To establish the muscular movement, the Course suggests that when exercises are practiced on the board, they be written immediately at the seat to avoid the habit of the whole arm movement. It means that all the pupils' writing should be done with the muscular movement, and that the pupil be never allowed to drift into the finger movement.

Rhythm is established thru calisthenic exercises, muscular exercises, various writing drills to music, or counting in the absence of music.

7. The pupil must first feel that it is important that he improve his writing. His attention should be called to the importance of legible writing in all written work. What is written down is written in order that it may be read by some one else, or read by the same

individual at some future time. Neither of these results can follow unless the writing is legible.

Call the attention of the pupil to the fact that it is a pleasure to read a neat, carefully written letter or paper where the letters are correctly formed, and that it is anything but a pleasure to read a slovenly written composition that is scarcely legible.

Pupils should be encouraged to pass judgment on their own penmanship to compare the various lines written in the writing period each day to determine which specimen is best. They should be encouraged to tell why that specimen is better than any of the others. It is a good plan to get a sample of the pupil's best writing at least once each month, and compare the sample written any one month with the samples written in previous months and to note the improvement, if any, that he is making.

When a class has prepared a written exercise, it is well occasionally, to hold the various ones before the class, and let the class pass judgment as to which is best. Post the best written paper on the board for several days.

GRAMMAR—Answers.

By Miss Laura Hayes, Teacher of English Grammar, Illinois State Normal University.

1. (a) An expletive is according to the derivation of the word a "filler in." It is a word which has no use in the sentence except to change the form. It is called by some grammarians a form word. *There is a God.*

(b) An appositive is a substantive added to another substantive without the aid of a connecting word. It may classify, identify or merely repeat. *Mary, my sister, is here.*

(c) A gerund is a verbal noun ending in "ing." *Finishing the work required skill.*

(d) An auxiliary verb is a verb which helps in the formation of the tenses of other verbs. In the sentence, *I have a pencil*, the word *have* expresses the idea of possession and is not an auxiliary verb, but in the sentence, *I have found a pencil*, the idea of action is asserted of the subject of thought. The word *have* is therefore only an auxiliary verb.

(This term is not used by many grammarians.)

(e) A collective noun is a common noun which even in its singular form represents more than one individual or thing of the same kind. Example. *I saw a flock.*

2. Inflection is a slight change in the form of a word to denote a difference in meaning or a difference in construction. Nouns, pronouns, verbs, adjectives and adverbs are inflected. Words are inflected in the following ways:

(a) By a change in the words as *take, took*; *woman, women*.

(b) By adding a letter or a syllable as *walk, walks*; *boy, boy's, boys*; *box, boxes*. Sometimes the last letter must be changed or omitted. Sometimes it must be doubled as *baby, babies*; *write, writing*; *omit, omitted*.

(c) By the use of helping words as walks, have walked; beautiful, more beautiful.

(d) By the use of different words as I, my or mine me; good, better, best.

3. (a) I have what you are looking for. The word *what* is a relative pronoun.

(b) What weather we are having. The word *what* is an adjective.

(c) What partial judges these are. The word *what* is an adverb. (This use is not sanctioned by some grammarians, tho modern dictionaries are beginning to use it. I do not approve of it.)

(d) What are you looking for? The word *what* is an interrogative pronoun.

(e) What! You don't mean it. The word *what* is an interjection.

4 (a) Whither thou goest I will go. The adverbial clause *whither thou goest* is added to the word *go* by means of the conjunctive adverb *whither*. It expresses place.

(b) This is the story that we read. The adjective clause *that we read* is added to the word *story* by means of the conjunctive pronoun *that*. The clause is limiting.

(c) The ground is wet because it has rained. The adverbial clause *because it has rained* is added to the word *wet* by means of the subordinate conjunction *because*. The clause expresses cause.

(d) It was so cold that the mercury froze. The adverbial clause *that the mercury froze* is added to the word *so* by means of the subordinate conjunction *that*. The clause expresses degree.

(e) This we know, that our future depends on our present. The noun clause *that our future depends on our present* is in apposition to the word *this*.

5 (a) The word *we* is a personal pronoun. It is of the first person, plural number, either masculine or feminine gender, nominative case. It is the subject of the clause.

Its declension is:

Singular.		Plural.
Nom.:	I.	We.
Poss.:	My, mine.	Our, ours.
Obj.:	Me.	Us.

(b) The word *ground* is a common noun. It is of the third person, singular number, neuter gender, nominative case. It is the subject of the sentence.

Its declension is:

Singular.		Plural.
Nom.:	Ground.	Grounds.
Poss.:	Ground's.	Grounds.'
Obj.:	Ground.	Ground.

(c) The word *wet* is an adjective showing the condition of the ground. It is used as the predicate attribute of the sentence. It is compared.

Positive: Wet.

Comparative: Wetter.

Superlative: Wettest.

(d) The words *has rained* are an attributive intransitive verb phrase. It is made up of the verb *has* and the past participle *rained*. The verb *rain* is a new conjugation verb whose principal parts are *rain, rained, rained*.

The phrase is in the active voice, indicative mode, present perfect tense. It is in the third person and singular number to agree with its subject *it*.

(e) The word *so* is an adverb expressing the degree of the coldness. It is added to the word *cold*. It is not compared.

(f) The word *this* is an adjective pronoun. It is of the third person, neuter gender, singular number, objective case. It is the object of the sentence.

It has only the plural form *these*.

6. (a) She invited Kate and *me*. The word *me* must be used because it is the object of the word *invited*.

(b) *Whom* did you speak to? The word *whom* must be used because it is the object of the preposition *to*.

(c) She has *come* from a distant city. The word *come* must be used because the verbal in a present perfect tense is a past participle.

(d) It must have been *he* that I met. The word *he* is used because it is the predicate attribute.

(e) She has *come* from a distant city. The word *come* must be used because it is an adverb showing the manner of the speaking.

(f) *Whom* did you call? The word *whom* must be used because it is the object of the verb phrase *did call*.

(g) The color of the roses *is* red. The word *is* must be used because it must agree with its subject *color*.

(h) He has *laid* the book on the table. The word *laid* must be used because it is the past participle of the transitive verb *lay*.

(i) Each of the boys *has* an apple. The word *has* must be used to agree with its subject *each*. The word *each* is always singular in number.

(j) Did you give Mary or *me* the message? The word *me* must be used because it is the indirect object.

7. Ten uses of the noun with illustrations are:

1. Subject of a sentence or clause. The *man* is here. I know the *man* whom *Mr. Smith* saw.

2. Object of a sentence or clause. I saw a *man*. I know the *man* who saw *Mr. Smith*.

3. Predicate attribute of a sentence or clause. The man is *Mr. Smith*. The man, who is my friend, spoke to me.

4. Predicate attribute of the object. They elected him *treasurer*.

5. Object of a verbal. The girl sweeping the room is neat.

6. Appositive. Mary, my friend, visited me.

7. Adverbial substantive. He ran a *mile*.

8. Indirect object. Give *John* the book.

9. Object of a preposition. He goes to *school*.

10. Nominative of address. *Mary*, sit still.

8. (a) A relative pronoun is a pronoun which joins an adjective clause to a noun or pronoun. It must have the use of a pronoun in the clause and it must be used as a conjunction.

A personal pronoun is a pronoun which shows by its form, even when standing alone, whether it represents the speaker, the one spoken to, or the one spoken of.

(b) A clause must have a subject and a predicate and is used like a noun, adjective or adverb. A phrase may not have a subject or a predicate and may be used like any part of speech.

9. (a) A noun clause used as the subject of a sentence is illustrated in the following sentence: *That the earth is round* has been proved.

(b) A noun clause used as the object complement is illustrated in the following sentence: I know *that the earth is round*.

(c) A noun clause used as the attribute complement is illustrated in the following sentence: Her reply was, "*I will go*."

(d) A sentence with an adjective clause connected by the word *where* is illustrated in the following sentence: I went to Bloomington *where I bought a dress*. The word *where* is really two parts of speech. As a conjunction it joins the clause to the word *Bloomington*, and as an adverb it is added to the word *bought*.

10. (a) The word *there* is no part of speech. It is an expletive or form word used to change the form of the sentence.

(b) The word *youth* is a noun used as the subject of the sentence.

(c) The word *years* is a noun used as an adverb added to the adverb *ago*. It is an adverbial substantive.

(d) The word *saw* is an infinitive used as the object of the preposition *to*. The prepositional phrase is added to the word *worth*.

(This construction is historically correct, and is used by many grammarians. There are some who would doubt it, and these would call the word *saw* an infinitive used as an adverb.)

(e) The word *who* is a conjunctive (relative) pronoun. As a conjunction it joins the clause *who had pure taste by right divine* to the words *King Admetus*. As a pronoun it is the subject of the clause.

(f) The word *taste* is a noun used as the object of the clause.

(g) The word *right* is a noun used as the object of the preposition *by*. The prepositional phrase is added to the word *had*.

(h) The word *divine* is an adjective added to the word *right*.

(i) The word *decreed* is a verb used as the predicate of the sentence.

(j) The word *singing* is a gerund used as the object of the verb *decreed*.

(k) The word *too* is an adverb of degree added to the adjective *bad*.

(l) The word *cups* is a noun used as the object of the preposition *between*. The prepositional phrase is added to the word *hear*.

(m) The word *pleased* is a participle added to the word *he*.

(n) The word *well* is an adverb added to the word *pleased*.

(o) The words *being soothed* are a verbal phrase used as the object of the preposition *with*. The word *being* is a gerund and the word *soothed* is a past participle. The prepositional phrase is added to the word *pleased*.

(p) The word *sleep* is a noun used as the object of the preposition *into*. The prepositional phrase is added to the word *soothed*. ..

(q) The word *heard* is a noun used as the object of the word *smoothed*.

(r) The word *and* is a co-ordinate conjunction joining the two predicates of the sentence.

(s) The word *him* is a pronoun used as the object of the sentence.

(t) The word *viceroys* is a noun used as the predicate attribute of the object and a part of the predicate attribute. It shows the effect of the making viceroy upon him.

11. Sentences illustrating four uses of the infinitive are as follows:

1. *To be here* is good. The infinitive is used as the subject of the sentence.

2. To see is *to believe*. The infinitive is used as the predicate attribute of the sentence.

3. You ought *to study*. The infinitive is used as the object of the sentence.

4. She does nothing except *study*. The infinitive is used as the object of the preposition *except*.

12. The verb phrases which are underlined in the following sentences illustrate those which are asked for in this question.

(a) They have been praised a number of times.

(b) *Praise* him. (The word *praise* is only a verb, not a verb phrase. A verb phrase cannot be used unless we use the emphatic or the progressive form.)

(c) If we praised him, he would like it. (The word *praised* is, however, not a verb phrase.)

(d) You might have been praised. (The best authorities do not use the potential mode. I do not.)

(e) He will praise him.

13. Sex refers to the object itself, gender to the word which represents the object. A man is of the male sex, but the word *man* is masculine gender.

Gender may be shown in three ways:

1. By a change of the word itself as boy, girl; son, daughter.

2. By inflection of the word as prince, princess; host, hostess.

3. By reference to some other word as Mr. Smith is my teacher.

The word *teacher*, which may be either gender, is here masculine, because it refers to the male *Mr. Smith*.

One summer morning, when the sun was hot,

Weary with labor in his garden plot;

On a rude bench beneath the cottage eaves,

Sir Federigo sat among the leaves of a huge vine.

This is a complex declarative sentence. The main proposition is *one summer morning, weary with labor in his garden plot. On a rude bench beneath the eaves, Sir Federigo sat among the leaves of a huge vine.*

The subject is the words *Sir Federigo*. The copula and predicate combined (predicate) is the word *sat*. The word *weary* is an adjective added to the word *Sir Federigo*. The phrase *with his labor* is an adverbial prepositional phrase added to the word *weary*. The word *labor* is the principal term in the phrase and it has as an adjunct the

possessive modifier *his*. The phrase *in his garden plot* shows the place of the labor and is added to the word *labor*. It is an adjective prepositional phrase. The word *plot* is the principal term of the phrase and it has as adjuncts the possessive modifier *his* and the noun *garden*, which is used as an adjective.

The word *morning* is a noun used as an adverb. It shows the time when the assertion is true and is added to the word *sat*. The word *one* is an adjective added to the word *morning*. The word *summer* is a noun used as an adjective added to the word *morning*. The clause *when the sun was hot* is an adjective clause telling something about the morning and is added to the word *morning* by means of the conjunctive adverb *when* which is added to the word *was* in its clause. The word *sun* is the subject of the clause. The word *was* is the copula. The word *hot* is the predicate attribute of condition. The word *the* is an adjective added to the word *sun*.

The phrase *on a rude bench* shows upon what he sat and is added to the word *sat*. It is an adverbial prepositional phrase. The word *bench* is the principal term of the phrase and it has as adjuncts the adjectives *a* and *rude*. The phrase *beneath the eaves* shows the place of the bench and is added to the word *bench*. It is an adjective prepositional phrase. The word *eaves* is the principal term of the phrase and it has as an adjunct the adjective *the*. The phrase *among the leaves* shows the place of sitting and it is added to the word *sat*. It is an adverbial prepositional phrase. The word *leaves* is the principal term of the phrase and it has as an adjunct the adjective *the*. The phrase *of a huge vine* shows what leaves (or the whole of which a part is taken) and is added to the word *leaves*. It is an adjective prepositional phrase. The word *vine* is the principal term of the phrase and it has as adjuncts the adjectives *a* and *huge*.

GEOGRAPHY—Answers.

By Superintendent Edgar S. Jones, Taylorville, Ill.

1. Maps are representations of certain geographical truths, hence a making or a reading of them gives the ideas in a most graphic manner.

The school room, yard or nearby lot or field may be drawn to a scale of so many feet to an inch or a fraction of an inch. From these local areas the work may continue until the state or continent is reached when the scale consists of so many miles to an inch or is merely a proportionate scale. One of the main reasons is the centering of the railroads around the south end of Lake Michigan as well as the water line of transportation by the way of the Great Lakes. Another factor is the unusually fertile soil to the south and west. Still another reason is the nearby coal fields and the iron of the Lake Superior regions.

3. North America.	Mississippi.	Gulf of Mexico.
	St. Lawrence.	Gulf of St. Lawrence.
South America.	Amazon.	Atlantic Ocean.
	La Plata.	Atlantic Ocean.
Africa.	Nile.	Mediterranean Sea.
	Congo.	Atlantic Ocean.
Europe.	Danube.	Black Sea.
	Rhine.	North Sea.
Asia.	Yang tse Kiang.	Yellow Sea.
	Ganges.	Bay of Bengal.

4. After the sketch is made draw eight horizontal lines over the middle Mississippi Valley thus showing the medium rainfall; the scant rainfall of the southwest may be represented by vertical lines while the northwestern and southeastern parts of the United States may be represented by oblique lines or heavy dots.

5. When the air is considerably heated as it is in the equatorial region, it rises. As the heated air is pushed up it moves toward the north and south in the direction of areas which are not as highly heated, finally reaching the surface. Owing to the rotation of the earth the surface currents flow from a greater pressure to a lower pressure. The trade winds blow from the northeast and from the southeast.

6. Climate is the basis of location if it is taken into consideration that climate is determined by latitude.

The purpose of latitude and longitude is to determine the exact location of a place with reference to the equator and a chosen meridian.

Latitude is the distance north or south from the equator, being measured on meridians, while longitude is the distance east or west from a selected meridian. Longitude is measured on parallels.

7. The trade winds bring from the ocean a large amount of moisture, hence we find in the Guianas and northern Brazil an excessive rainfall. In south Brazil is to be found the zone of calms. This produces practically a desert as is found in Bolivia and in the Desert of Atacama. The westerly zone in which is located central and southern Chili has a dry belt.

8. With the development of agriculture and especially the raising of wheat, corn, cattle and sheep, Argentina is competing with the United States for the markets of Europe.

9. The annual rise of the Nile is attributed to the fact that the source of the river is in the belt of calms. The rise of the river begins about June 1st and reaches its highest point in October when it recedes until the following June. Part of the source, however, in the winter is in the path of the trade winds.

In winter the monsoons blow from the land to sea thus causing the dry seasons. In summer the monsoons blow toward the land from the ocean thus bringing an excess of vapor.

The trade winds have been blowing a long distance over the land, hence they have but little vapor for the Sahara regions.

Another reason is that the winds are blowing from a cooler to a warmer region and are taking up moisture rather than losing it.

10. The British Isles extend from 50 degrees to 60 degrees north latitude.

The climate of the British Isles is more even than that of the continent of Europe, being influenced by the Gulf Stream and the westerly winds. The western coast receives the greater rainfall and it is also a noticeable fact that the range of temperature between summer and winter in Ireland is seldom more than 25 degrees.

The British Isles correspond to Labrador and British Columbia in North America. Labrador is especially influenced by the polar currents. British Columbia's temperature is reduced by the warm winds from the Pacific Ocean.

France is about four times as large as Illinois while Germany compares favorably with the combined areas of Iowa, Missouri, Illinois and Indiana.

France is bounded on the north by the English Channel, on the east by Belgium, Germany, Switzerland and Italy, on the south by the Mediterranean Sea and Spain, on the west by the Atlantic Ocean.

Germany is bounded in the same order as follows: North Sea, Denmark and Baltic Sea, on the east by Russia and Austria, on the south by Austria and Switzerland, on the west by France, Belgium and Netherlands.

	Rivers.	Products.
France.	Seine.	Silk.
	Rhone.	Wheat.
	Garonne.	Grapes.
		Live stock.
Germany.	Rhine.	Sugar beets.
	Elbe.	Potatoes.
	Vistula.	Rye.
		Live stock.
		Manufactured products.

On March 20th the sun shines vertically on the Equator, the circle of illumination extending from pole to pole. The days and nights are everywhere of equal length. On June 22d the vertical rays of the sun extend to the Tropic of Cancer and the circle of illumination extends $23\frac{1}{2}$ degrees beyond the north pole and lacks $23\frac{1}{2}$ degrees of reaching the south pole. On account of the inclination of the earth to the plane of the ecliptic the length of day increases until June 22d, when the greatest length is attained. On September 20th the day and night are again equal for the reason that the direct rays of the sun are shining on the Equator.

If the earth's axis were inclined 30 degrees, the width of each Frigid Zone would be 30 degrees. Twice the width of the Frigid Zone would be the width of the Torrid. This would be 60 degrees. One hundred and eighty degrees—60 degrees the Torrid and 60 degrees

both Frigids equals 60. One-half of 60 degrees equal 30 for each temperate zone.

Wheat production—Northern Mississippi Valley, Nile Valley, France, Valley of the Danube.

Cotton—Southern United States, India, Nile Valley.

Manufacturing—England, Germany, United States, France.

The fact that no single country produces all the various needed products makes transportation between the countries necessary.

Great Britain, Germany, United States, Netherlands, France, Russia, Japan and Brazil.

UNITED STATES HISTORY—Answers.

By A. F. Strome, Department of History, Western Illinois State Normal School.

1. (a) Oglethorpe's purpose in obtaining a grant of land and making a settlement in America was to provide a place of refuge and new opportunity for the debtor class of England.

(b) Cortez was a Spanish soldier sent by the Governor of Cuba to conquer and plunder the rich Indian kingdom of Mexico.

(c) Ponce de Leon at different times had different objects in view, as discovery, exploration, settlement and conquest. His chief motive in the exploration of Florida was the desire to discover the fountain of youth.

(d) Balboa was a Spanish adventurer and bankrupt. His chief motive was the desire for easily acquired wealth. It was while on an outlaw expedition in search of wealth that he discovered the Pacific.

(e) The Pilgrims came to America because of the desire for religious freedom. They had at first found refuge in Holland but fearing that they would soon lose their character and identity in the midst of the foreign population they decided to come to America where they could govern themselves and worship as they chose, and bring up their children without fear of the corrupting influences of a foreign life.

2. (a) The earliest English settlement in the United States was that of the so-called "Lost Colony" made in 1587, on Roanoke Island. The first permanent settlement was that of Jamestown, made in 1607.

(b) It is not possible to say when and where the first Spanish settlement within the United States was made. The first permanent settlement was that of St. Augustine made in 1565.

(c) The first French settlement was that made by Ribault at Port Royal on the Carolina coast in 1562.

(d) The first Dutch settlements were made at what are now Albany and New York in 1613 and 1614.

3. (a) One of the most important events in the early history of Virginia was the convening of the House of Burgesses in 1619.

(b) An important event in connection with the early days of Maryland was the passage of the Toleration Act in 1649.

(c) An event of great significance in connection with the settlement of Massachusetts was the transfer of the Company's Charter to America in 1629.

(d) Doubtless the most important single event in the early history of New York was the establishment of the Dutch West India Company in 1621.

(e) The most important event in connection with the settlement of Georgia was the introduction of slavery in 1749.

4. Among the more important physical conditions favoring the growth of civilization are:

(a) A temperate climate. It is only the people of a temperate climate who have the energy, the resources, and the leisure necessary to the development of a high degree of civilization.

(b) A moderate and well distributed rainfall. Neither excessive rainfall nor excessive dryness is conducive to the development of a varied agriculture, and agriculture is civilization's basic industry.

(c) Natural resources. A favorable distribution of fertile soil, minerals, water power, etc., stimulates a varied production and the consequent specialization which is essential to a high degree of civilization.

(d) Accessibility. Second only to production is distribution, and easy distribution is possible only where the country is readily accessible.

5. In the course of our national development the following additions have been made to the original territory of the United States:

(a) Louisiana, by purchase from France in 1803.

(b) West Florida to the Perdido River seized by the order of President Madison in 1810.

(c) Remainder of West Florida seized in 1812.

(d) Florida, including the territory previously seized, purchased from Spain in 1819. (Treaty ratified in 1821.)

(e) Texas by annexation in 1845.

(f) Oregon territory south of parallel 49 degrees assured to the United States by a treaty with England in 1846.

(g) California and New Mexico territory by conquest and cession from Mexico in 1848.

(h) The Gadsden Purchase, 1853.

(i) Alaska by purchase from Russia in 1867.

(j) Hawaii by annexation in 1898.

(k) Porto Rico, Guam, and the Philippines by cession from Spain, 1898.

(l) Island of Tutuila by joint agreement between the United States, Germany and England in 1900.

6. The doctrine of secession was as old as the national government. It had been advanced at various times by states or sections which felt aggrieved at the action of the national government. The South had long maintained the doctrine as a defense against what it termed the tyranny of the majority. When the Republican party was formed the Southern leaders believing or professing to believe that if this party got control of the government their liberties and institutions would be in danger, prepared to carry their threat into

effect. In 1860 Lincoln was elected, and South Carolina immediately passed an ordinance of secession. She was followed by the remainder of the southern states.

Among the more prominent leaders in this movement were Jefferson Davis, Howell Cobb, Robert Toombs, and Judah P. Benjamin.

7. The chief terms of the compromise measure of 1850 were:

(a) That California should be admitted as a free state.
(b) That the slave trade should be abolished from the District of Columbia.

(c) That a new and more stringent fugitive slave law should be passed.

(d) That New Mexico and Utah territories should be organized without any provision relative to slavery.

(e) That the boundaries of Texas should be fixed and that she should be paid a sum of money for the relinquishment of her claims on New Mexico, and the release of the United States from all obligation to pay the Texan debt.

The principle of Popular Sovereignty as set forth in the compromise measure was practically nullified later by the decision of the Supreme Court in the Dred Scott case. It was also claimed by the South that the Fugitive Slave Law was violated by the North in the passage of the Personal Liberty Bills.

8. (a) The franchise in Massachusetts was limited by law to church members, and by practice to the propertied classes. Only about one-fourth of the adult males enjoyed the right of suffrage at any time during the seventeenth century.

The suffrage laws of Virginia were on the whole more liberal than those of Massachusetts. At first all white males seem to have voted. In 1670 the right was limited to freeholders. A freeholder was defined by an Act of 1736 as meaning the owner of one hundred acres of wild land, or fifty acres of improved land, or of a house and lot in town. Shortly before the Revolution these qualifications were reduced one-half.

(b) The Puritans of Massachusetts believed that education was one of the chief means of fighting the devil. Especially were they anxious that their children should be able to read the Scriptures. One of their first concerns therefore was the establishment of the public school system. In 1636 it was voted to found a college, and in 1647 the general court passed an Act for the establishment of a common school in every town of fifty families, and a grammar school in each of the larger towns.

Virginia was more backward in the cause of education. Here, owing to the aristocratic character of Virginia society and the fact that the population was scattered, a system of public schools was not established. However, several free schools of a private character were founded, and the children of the wealthier planters were instructed by private tutors. Higher education was fostered by the establishment of William and Mary College in 1691.

(c) The social life of Virginia and Massachusetts differed widely. That of Massachusetts was centered about the church and was characterized by frugality and Puritan severity, while that of Virginia

centered in the great plantation and was marked by all the luxury and freedom characteristic of the life of the upper classes in England.

9. (a) Alexander Hamilton's greatest public service was the formulation and carrying into effect of his financial plans, thus strengthening the new government and establishing its credit.

(b) Benjamin Franklin's greatest service was his work as representative to France during the American revolution. It was chiefly due to his influence that France entered into alliance with the Colonies.

(c) Patrick Henry's greatest service to his country was doubtless his speeches setting forth the theory of colonial rights.

(d) Thomas Jefferson's greatest service was the purchase of Louisiana.

(e) Eli Whitney's great contribution to his country was the invention of the cotton gin.

10. In a general way it may be said that the war of 1812 was caused by England's outrageous violations of our neutral rights. For many years, indeed, ever since the outbreak of Napoleonic wars, we had been the victims of the efforts of England and France to injure each other, and the injury due to this cause was aggravated by England's known desire to crush the American carrying trade. It is scarcely a fair statement, however, to say that the war was waged solely in defense of "Sailors' Rights." It was due largely to the rising tide of American national life, and that life found its most vigorous expression in the new west. The men who wanted war, the "War Hawks," were for the most part young men from the west, men whose spirit rebelled against any further submission to the abuses to which their country was subject.

The war was fought under the administration of James Madison.

The Spanish American War was the outgrowth of Spain's misgovernment in Cuba. Not only did Americans have large interests in Cuba, but the American people were naturally sympathetic for the Cubans who were in rebellion against the oppression of the Spanish government. Finally, after the Maine was blown up, public opinion became irresistible in its demands and the government was compelled to declare war in behalf of the Cubans.

This occurred during the administration of President McKinley.

11. The reasons for teaching history may be summed up in the statement that good citizenship demands that history be taught.

(a) A good citizen is one who understands our present day life and institutions, and our life and institutions can be understood only in the light of their development.

(b) The good citizen is patriotic, and history teaches patriotism by teaching the meaning of our country.

(c) The good citizen is moral, and history teaches morality by showing the consequences flowing from wrong action and the rewards of right actions.

(d) The best citizen is the cultured citizen, and one of the elements of culture is an intelligent knowledge of the past.

History teaching in the intermediate grades should be confined to a few topics inherently interesting to children, and these should be treated with fullness of detail. It is a mistake to attempt anything like a general survey in these grades. The effort to do this entails condensation of statement and children cannot visualize condensed statements.

12. Since the time of the adoption of the constitution the people of the United States have been in a general way divided into two great parties with respect to the powers and functions of the national government. One party has favored the interpreting of the constitution broadly, permitting the national government to exercise very large powers under authority of the so-called elastic clause, which authorizes congress to make all laws which shall be necessary to carry the specially enumerated powers into effect. The other party has held to a strict interpretation of the constitution maintaining that the national government should exercise only such powers as were expressly conferred on it. The first great political parties were formed upon this issue. Hamilton and the Federalists advocated the doctrine of broad construction while Jefferson and the Democratic Republicans advocated strict construction. At the present time the issue is not so sharply defined, but the Republican party in general stands for large national powers while the Democratic party emphasizes state rights and limitation of federal powers.

13. In the period immediately preceding the discovery of America, Europe was undergoing a great change. The old mediaeval system was breaking up. Feudalism was disappearing, the towns were rapidly growing under the influence of a revived commerce, luxury was increasing, and even the modes of thought were changing. own sake, and consequently gave more attention to the things of this world. The result was a great revival of learning and new developments in the way of discoveries and inventions. Political conditions were also changing. As the Feudal system declined, the national governments arose into power and influence and began to play a part in the new life. In religion alone was there marked evidence of decline. The great church organization was corrupt and the people were losing confidence not only in the clergy, but even in the doctrines of the church. However, the influences of change, were exerting themselves in the field of religion, and the way was being prepared for the great religious revival which began only a few years after the discovery of America.

14. The constitutional convention was called to meet at Philadelphia in May of 1787. The delegates who attended were the best men of the country, men who were fully conscious of the perils which beset the nation. But from the first it was apparent that there were almost irreconcilable differences of opinion as to the proper remedy for the existing evils. The representatives from the large states were generally in favor of the formation of a strong national government, while the small state group fearful that the small states would be overshadowed by the large states strove to preserve the confederation idea. The two parties were frequently in deadlock, and failure some-

times seemed inevitable. The main point at issue between the two parties was the question of representation in congress. The small states demanded equal representation, while the large states demanded that representation be based on population or wealth. After a bitter struggle the question was settled by yielding to the small states equal representation in the Senate, while representation in the House of Representatives was to be on the basis of the large state idea of representation according to population. This settled the great question of issue between the large and small states, but after this, other questions of a sectional character came up. The second great controversy grew out of the first. When it was decided to base representation in the lower house on population, the question arose as to whether slaves were to be counted as population or wealth. The same point came up in connection with the question of direct taxation, it having been decided to apportion direct taxes according to representation. The slave holding states naturally wished to count slaves as population in determining representation, and as wealth in apportioning direct taxes. The northern states wished to count them as wealth in apportioning representation, and as population in apportioning taxes. The question was settled by counting three-fifths in both cases.

The third great struggle came up in regard to the regulation of commerce. New England desired that congress be given full power to regulate both foreign and interstate commerce. The southern states fearing an export tax on farm products and a prohibition of the slave trade opposed New England. The question was settled by giving congress full power to regulate commerce, with the exception that no duties on exports were to be levied and that the slave trade should not be prohibited before the year 1808. With these difficult questions out of the way the convention completed its work and adjourned on September 17th.

ILLINOIS HISTORY—Answers.

By Elbert Waller, Superintendent of Schools, Albion, Ill., and Author of Waller's History of Illinois.

1. The first people in Illinois were, without much doubt, the Mound Builders. They were succeeded by the Indians, all of whom, except the Shawnees, belonged to the Algonquins. Among the tribes may be mentioned the Kaskaskias, the Kahokias, the Peorias, the Tamaroas and the Mitchigamies, all of whom belonged to the Illinois Federation. To these we would add the Miami Federation, composed of the Miamis, the Eel-Rivers, the Weas and the Piankeshaws.

2. When Illinois was admitted to the Union the boundary was so changed as to add a strip fifty miles wide across the north end. This gave us a lake front which made vast shipping interests possible, giving us the site for the City of Chicago. It also gave us a large population in the state that favored the Union in the time of the Civil War, and did much toward holding Illinois as a loyal state.

3. Spain, France and England. Louis Joliet, then Robert Cavalier de La Salle.

4. At twelve o'clock noon on Wednesday next after the first Monday in January of odd-numbered years. Fifty-one in the Senate and one hundred and fifty-three in the House of Representatives.

5. Kaskaskia, at the mouth of the Kaskaskia River, Vandalia on the Kaskaskia River, about a hundred miles from the mouth, Springfield on the Sangamon River.

6. Massacre of Fort Dearborn in 1812, Capital of Illinois from 1820 to 1839. Scene of trouble with the Mormons.

7. A code of laws for the government of the northwest territory. Applied to early government of Illinois, defined its boundary, set conditions on which it might become a state, prohibited slavery.

8. In 1778 he floated down the Ohio and landed near Fort Massac, crossed over and took Kaskaskia from the English and hoisted the Stars and Stripes, thence across the country and took the British post at Vincennes, and thus amid untold dangers and hardships, established the authority of Virginia over this region. The U. S. Government later voted him a sword, but as he said, he needed money. He died in poverty in 1818.

9. In 1673, Joliet, an explorer, and Father Marquette, a missionary, crossed the present State of Wisconsin to the Mississippi River, sailed down to the mouth of the Illinois River, thence up to its source, thence across the portage to Lake Michigan and to the point of starting. Marquette returned to the Illinois country and there died. LaSalle was also a French explorer, who with Henry Tonti, an Italian soldier, founded Fort Creve Cour on Lake Peoria. LaSalle left Tonti there and explored the country to the mouth of the Mississippi River, then returned and built a fort on Starved Rock. Tonti stayed at the fort and LaSalle went to France for supplies and men and tried to return by way of the mouth of the Mississippi River, but was assassinated by one of his own men. Tonti tried to protect Fort Creve Cour against the Iroquois, but was forced to give it up and it was destroyed. After varying hardships and misfortunes, he went to the mouth of the Mississippi River to search for LaSalle, but never found him. After learning of LaSalle's death he returned to the French settlement at Green Bay.

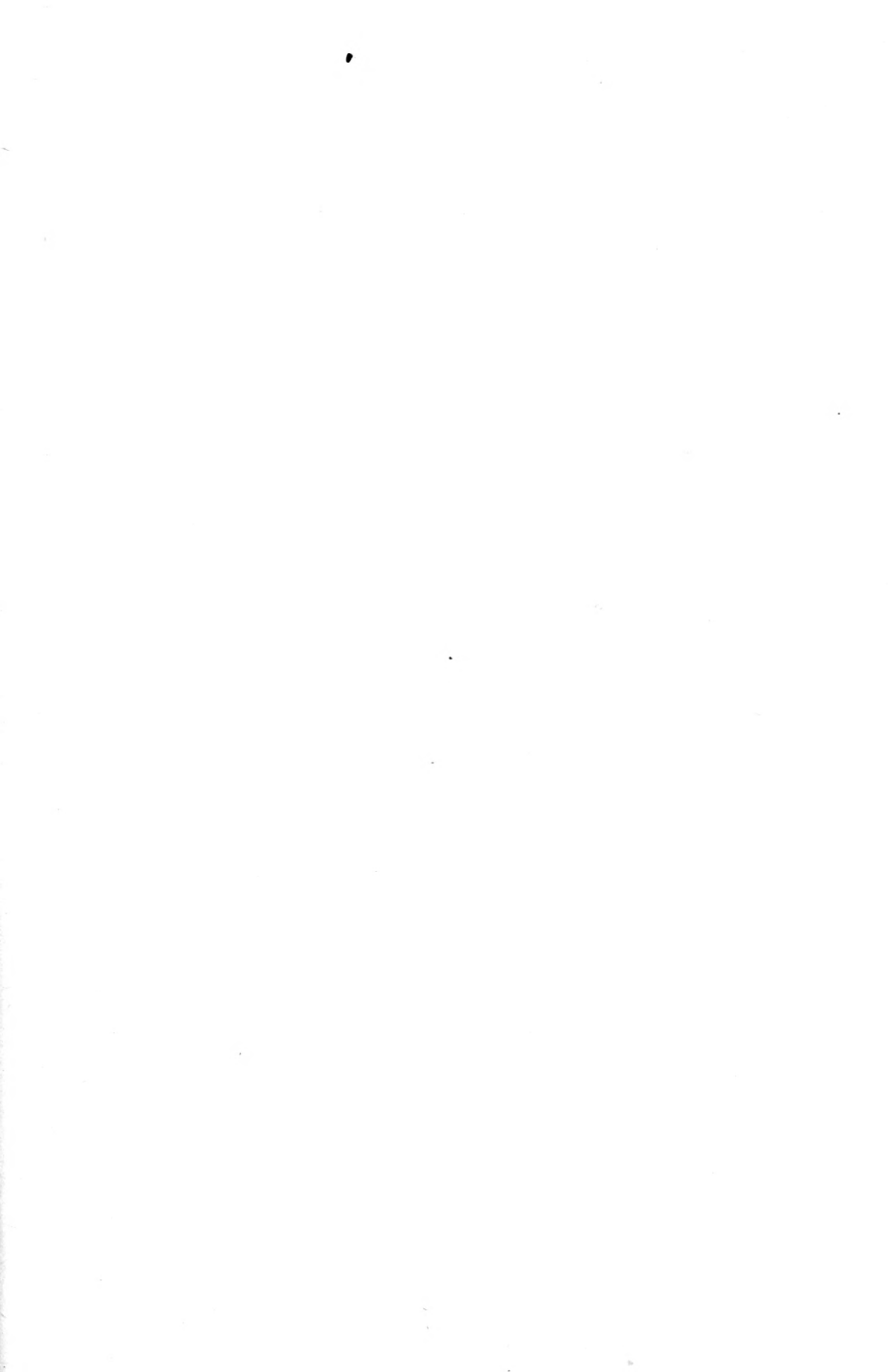
10. Beginning at the mouth of the Wabash River, thence up the same and with the line of Indiana, to the northwest corner of said state, thence east with the line of said state to the middle of Lake Michigan, thence north along the middle of said lake to north latitude 42° 30 minutes, thence west to the middle of the Mississippi River, thence down the middle of said river to its confluence with the Ohio River, thence up that river along the northwestern shore to the point of beginning. 388 miles long, 190 miles wide, area 56,000 square miles.

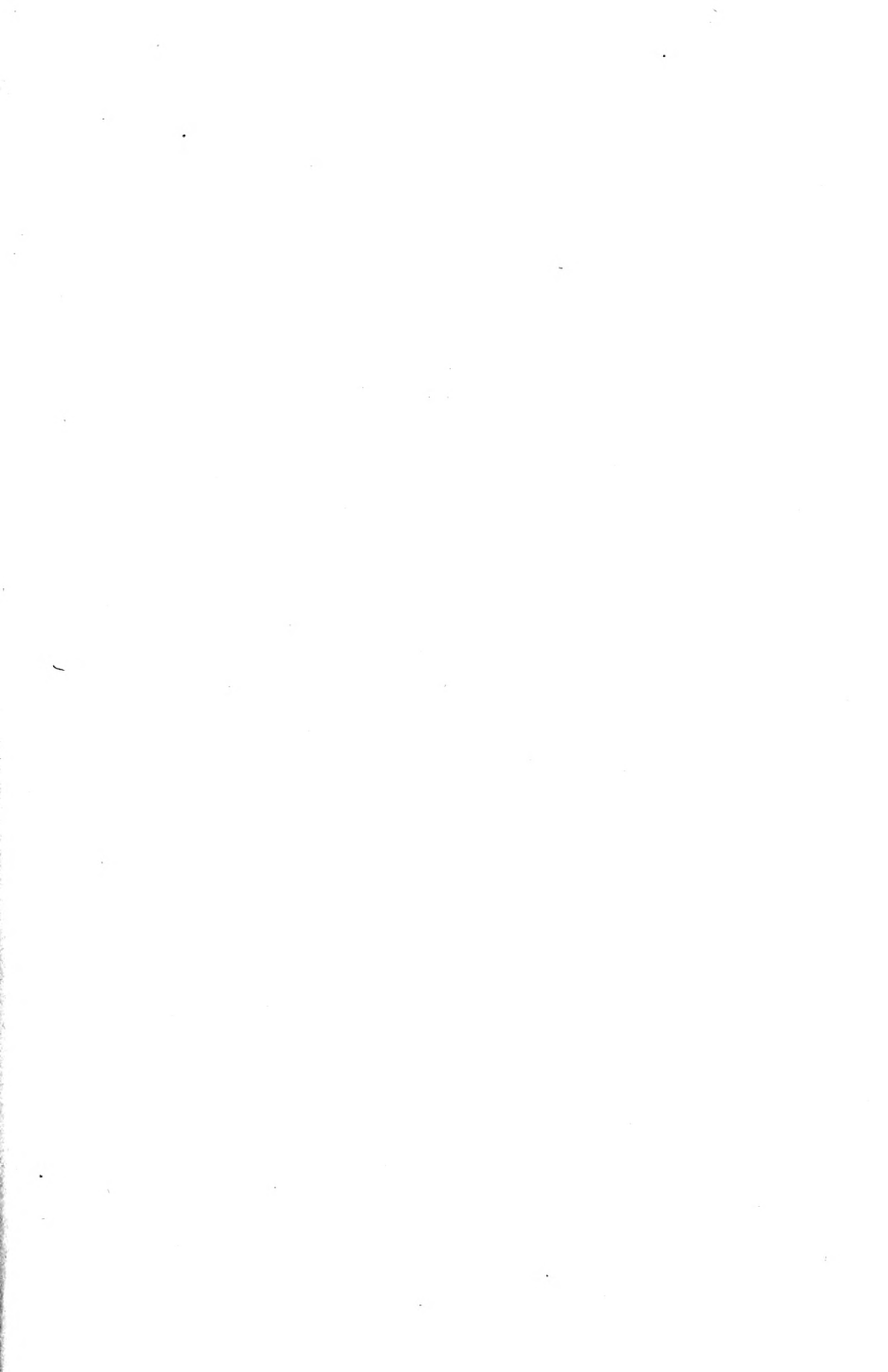
11. Its natural resources in the way of minerals and fertile lands, its navigable rivers, its climate, its location in the parkway of commercial routes, its proximity to the older states and its people.

12. E. K. Kane, Sidney Brees, Lyman Trumbull, James Shields, David Davis, Stephen A. Douglas, Abraham Lincoln and John A. Logan as statesmen; Abraham Lincoln and U. S. Grant as presidents; U. S. Grant, John A. Logan, Richard J. Oglesby, Charles T. Hovey as generals.

13. Old Fort Dearborn, erected in 1804, is the original site of Chicago. In 1812 the Indians attacked them and a large number of the people were massacred. In 1836 the last of the Pottawatomies left Chicago and the next year it was incorporated as a city. The Chicago fire occurred in 1871. It covered 2,200 acres, caused the death of over 300 people and the destruction of \$200,000,000 worth of property. It has now a population of nearly 3,000,000 people. The state penitentiaries are at Joliet and at Chester.

14. Some came from the New England states by way of the Great Lakes and settled in the northern part. People of Pennsylvania, Ohio and Indiana settled principally in the central part. People from Virginia and Maryland, coming down the Ohio, and those from Kentucky, Tennessee, the Carolinas and Georgia settled principally in the southern part. Those who settled in the northern part mainly opposed slavery, as well as did most of the people of the central part, but those who settled in southern Illinois quite generally favored it.





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